Plant Operations Notebook, N-95-05-01

This notebook covers the period May-September 1900. The book was used by Edison and an unidentified author for notes and calculations regarding production stoppages at the Ogden works. The pages are unnumbered. Approximately 120 pages have been used.

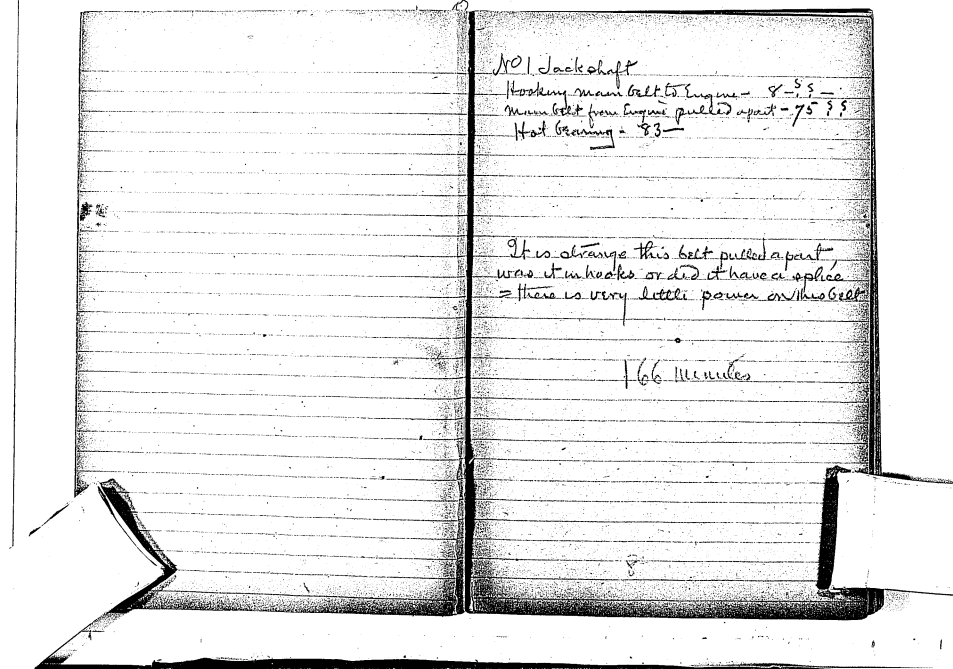
55 days including Sundays
lost from May 1st to Sept 15th
of the 85 days run
average hours run each day
~~5.24~~ 5.87 Hours —

138 days running time,
4.12 Hours —

1385
138 | 840 (850 | 1385 min
253 | 42
587 |
552 |
35

May	June	July	Aug	Sept
1	1		1	1
2	2		2	2
3			3	3
4	4		4	
5				5
	6		6	6
7			7	7
8			8	8
9		9	9	
10		10	10	10
11		11	11	11
12		12		12
		13	13	13
14		14	14	14
15			15	15 =
16		16	16	
	22	17	17	
	23		18	
	26	18		
		19	20	
		20	21	
		21	22	
			23	
		23	24	
		24	25	
		25		
			27	
28		28	28	
29			29	
30			30	
31		31	31	

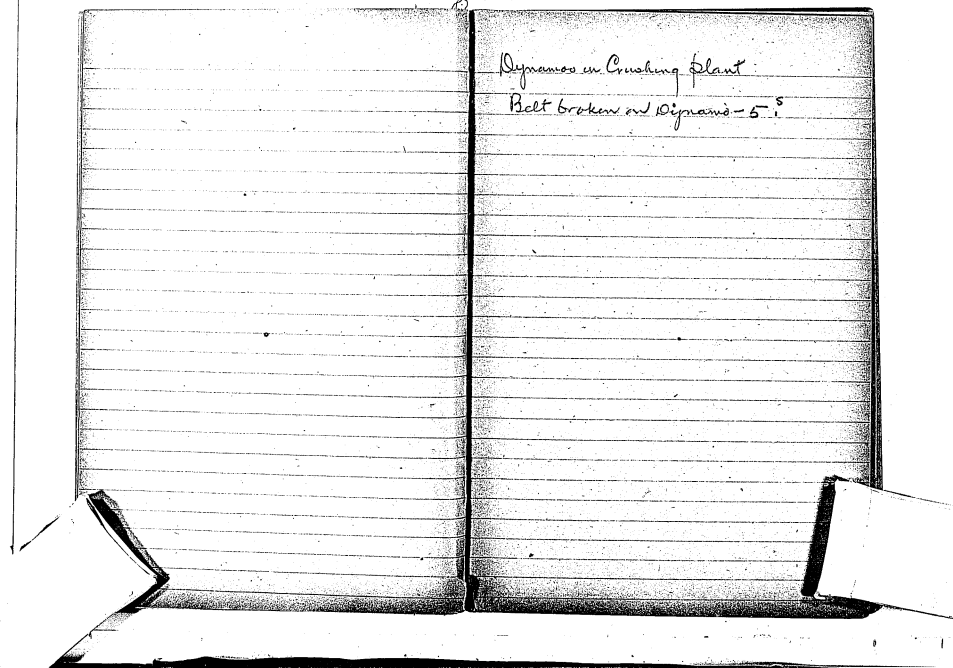
84 days worked
lost in stoppages on
running day 25.3 days 600 minutes each



No 1 Jackshaft
Hooking main belt to Engine - 8-55-
Main belt from Engine pulled apart - 75 55
Hot Bearing - 83-

It is strange this belt pulled apart
was it on hooks or did it have a splice
= there is very little power on this belt

166 minutes


Dynamos on Crushing Plant
Belt broken on Dynamo - 5.5

New cylinder ordered for this

Why cant oil pipe be connected back to engine unit but overflow

New Cylinder for this

Corliss Engine & Steam pipes

Steam valve broken 271 = 265 — 245 —

Broke down 93 — 15 — 22 —

No Engineer 32 —

No oil 6 —

No steam 10 — 13 — 26 — 16 — 10 — 15 — 12 — 15 —

Oil tank overflowed 12 —

Key loose in valve stem 5 —

Bad brake — 150 —

~~Steam~~ pipe — putting on T on oil system — 42

Planing Eng — 4 —

1279 minutes

No 2 Corliss Jackshaft

Drive belt Engine to Jack E side off 160—

Hooks broke on main drive from Engine to Jackshaft W side 50—

Hooking belt to 3 Counters from No 2 = 130
Splice pulled out 140

Running slow belt to 3 Counters run to one side 400—

Belt running to one side — 5"

Lagging off belt tightener. Shut down for day at 6.55

Hook belt to jack W side, hooks broke 65.

950 Minutes

Intermediate jackshaft drive

Intermediate roll
Blocked – 15 – 7 – 18 – 25 – 21 – 14 – 2 – 5
107 =

Friction slipped 3 – 3 –

Hooking belts 47 =
Drive belt broke in conveyor splice 58

Bearing hot 106 – Eside caused by
Worn t bearing getting hot 106

Friction band broken 94 –

Friction bands worn off when starting up
Chase removed them unnecessarily 2 –

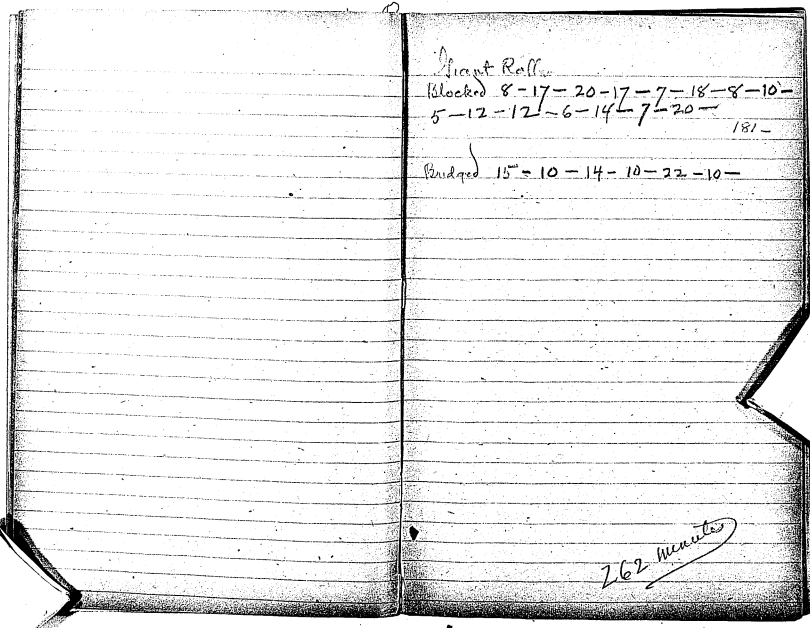
Running on roll drive belt 5 –

Hopper blocked – caused by chain of
roller feed – 27

Jogging off drive pulley 1 Counting 5 – 7
Changing plates – 570 – 10 –

Fixing bearing 560 + 380 –

2 Offs Minutes


Grant Roll
Blocked 8-17-20-17-7-18-8-10-
5-12-12-6-14-7-20-
181-

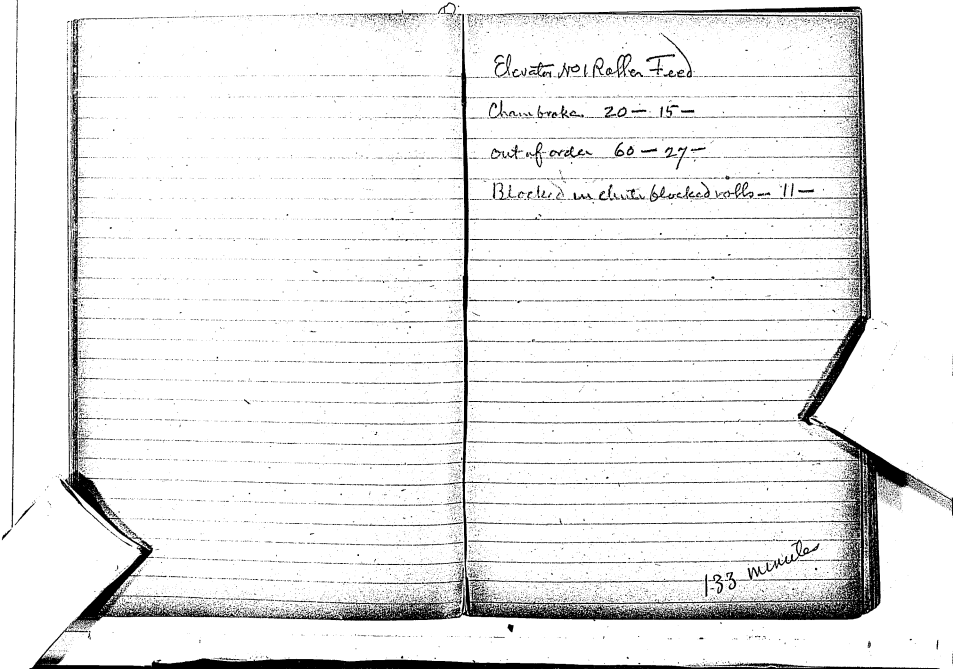
Bridged 15-10-14-10-22-10-

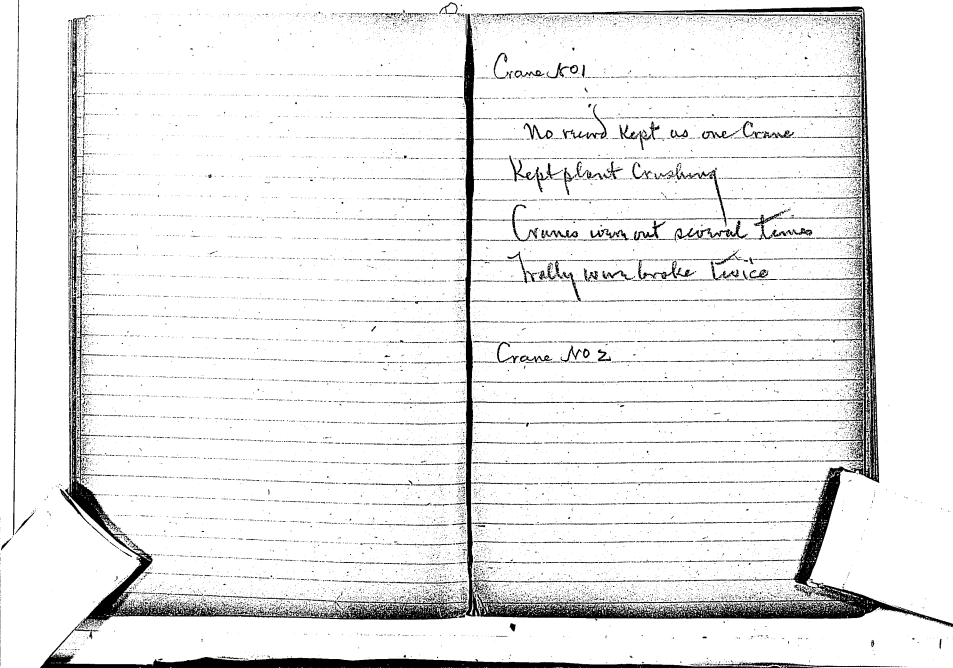
262 names

Giant Roll feed

Running on drive belt — 6
Drive belt pulley apart — 15 —
Rubbing hand on wood — 30 —
Out to dan 15 —

66 minutes


Elevator No 1 Roller Feed
Chain broke 20 — 15 —
out of order 60 — 27 —
Blocked in elevator blocked rolls — 11 —
133 minutes


Crane No 1

No record kept as one Crane
Kept plant Crushing
Cranes worn out several times
Trolly worn broke twice

Crane No 2.

Elevator No 1

Tightening clamps slipped 10 — 10 — 95 — 320 — 20 — 60 —

Pinion shaft moved 15 —

Clutch Top Elev out of order machinery running hot - 10 —

Bearings broken on pinion shaft shaft bent 440 —

Bucket slipped — 30 — 30 — 27 —

setting head drums 320 —

friction slipped on clutch *1

Hot bearing 48 — 30 —

Cleaned* 18 — 15 *3

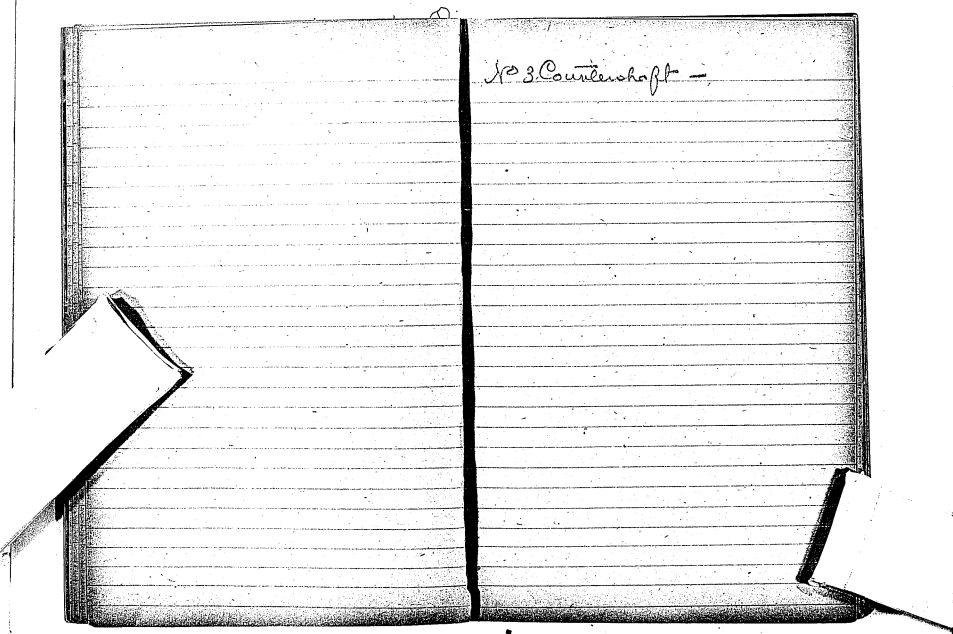
Loaded too heavy to start friction clutch driver bad shape — 82 = 40 — 102 +

1730 minutes

* Engine boiler

* working for main shaft friction clutch

*3 = rock got in bet worm bucket & chute =


No 3. Courtenschaft —

1st 36 Rolls

Friction slipped 6 – 4 – 2 – 10 – 4 – 3 – 9 – 8 – 15 – 8 – 18 – 18 – 15 – 15 – 18 – 20 – 30 – 6 – 34 – 32 – 53 +3 13 – 12 – 11 – 10 – 21 – 12 – 6 – 7

Blocked 7 = 18 = 21 – 10 – 25 – 6 – 15 – 6 – 13 – 10 – 5 – 15 – 35 – 44 – 20 – 21 – 35 – 10 – 2 * – 13 – 43 – 45 – 27 – 32 – 13 – 27

Slowed up 3 – 3 – 2 – 2

Carpenters Wkg on hopper 8 –

Changing plate bolt 10 –

Drive belt broke 50 – 35 – 30 – 24 – 30 –

Tightening bolts on Extension 25 –

Tightening frictions 4 – 10 – 8 –

Extension cleaned – 72 =

Blocked by Clutch coming loose 5 –

Roll removed at 2nd new plate striking check plate 18 –

Hot Gearing – 10 –

Ropes broke in Elevator = several days

Changing Drive Belt – 70 –

Friction broken 43 –

Looking for brake plate bolt – 8 –

Bolt broke – 34 – 40

Tightening bolts in plates = 18 –

Wiring bolts in extension – 5 –

* racks left in by night men –

* 2 plate unbuckle underneath dropping down

* 3 caused by wood from under 1st 36 –

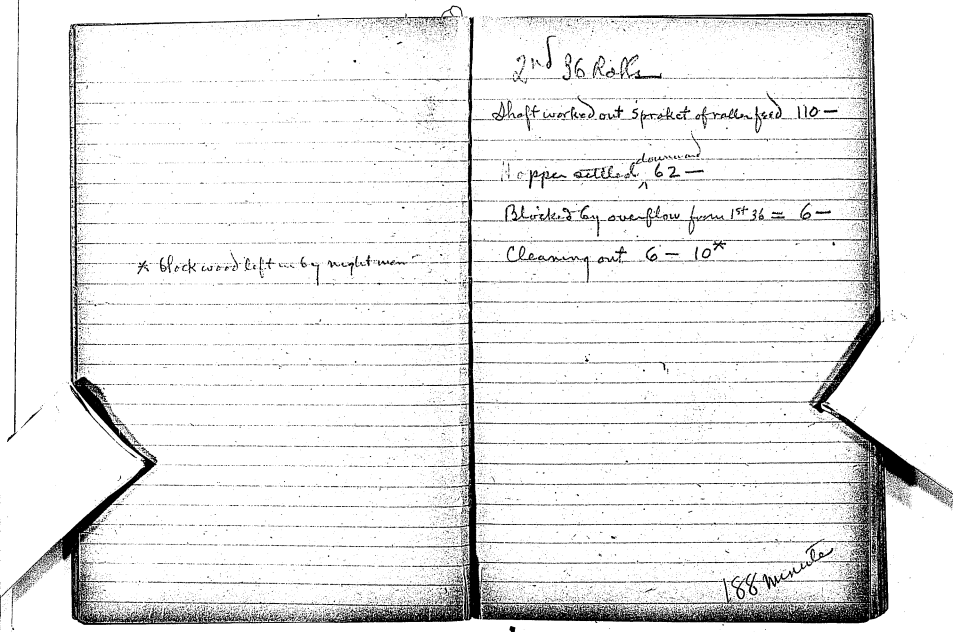
Blocked up from 12nd 36 –

* same as above –

Night men neglected tightening friction

* shut down for the night

1494 Mumbles



2nd 36 Rolls

Shaft worked out Sprocket of roller feed 110—

Hopper settled down 62—

Blocked by overflow from 1st 36 = 6—

Cleaning out 6— 10*

* Block wood left in by night men

188 minutes

Rolls

* belt broke from 1st 36 Rolls

*2 sheared by belt out of alignment to plate

*3 " " " "

*4 = no belt tightener

24" Rolls –

Lightening belts 67

Blocked 17 = 60 – 19

Pulley broken on Tightener 18 –

Cap broken and worker gear shaft 124

Teeth broken in gears so shut down for night

9=8=6=12=

Sheared 13 – 5 – 10 – 9 – 9 – 18 – 20 – 10

6 – 10 – 15 – 9 – 7 – 9 – 7 – 20 *2 = 6 = 41 *3 10 *4

Waiting for belts on pulleys to be tightened 25 – 32

Cards stripped 30 – sheared at 6 pm

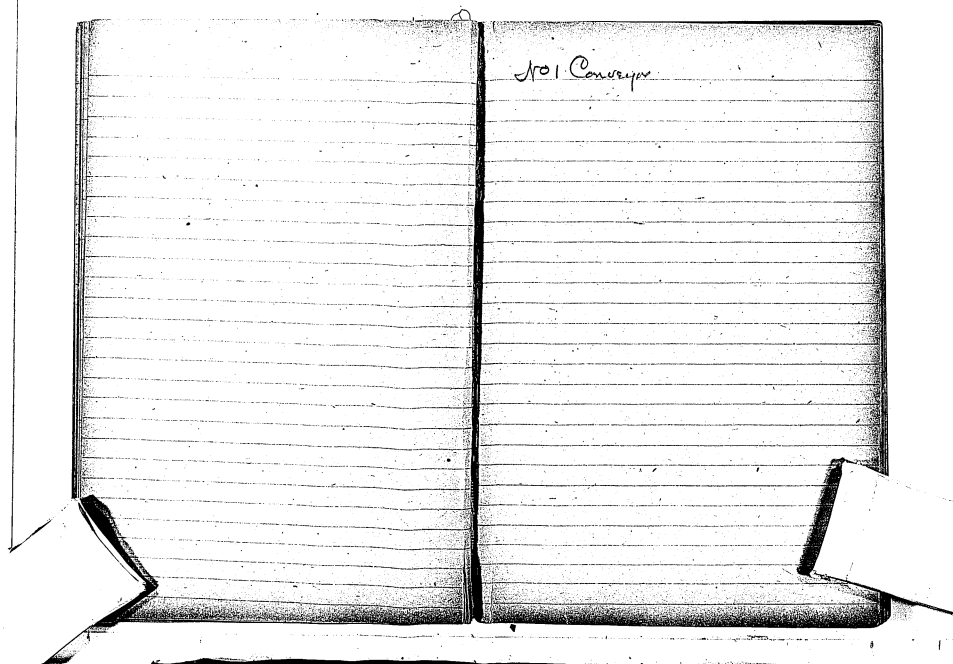
Nut from 1st 36 sheared rolls 20

Cap broken on pinion Gearing Caused by Machine leaving nuts in hopper 100 –

Gear teeth broken 135 & 227 – 145 = 155 –

Putting 24 rolls together 235 =

Drive belt broken 1 hook 30 – 1708


№1 Сочинение

Elevator 2

Chute top elev. strike bucket 62—

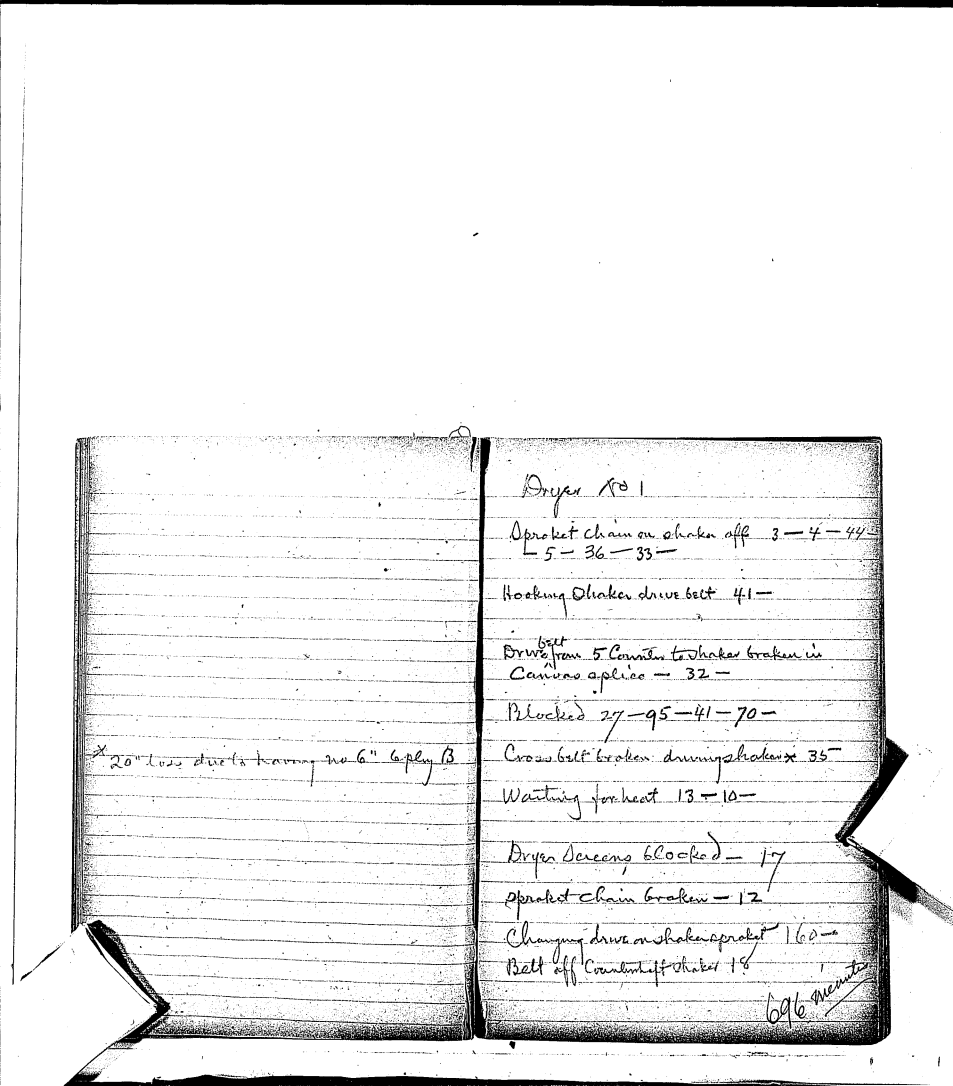
Tightening drive belt 48—

Sheared 19—12—9—8—10—8—5—18—5—

Drive belt broken 42—

* Engine running backwards
" "

246 Minutes



Dryer No 1

Sprocket chain on shaker off 3 — 4 — 44 — 5 — 36 — 33 —

Hooking Shaker drive belt 41 —

Drive belt from 5 Counter to shaker broken in Canvas splice — 32 —

Blocked 27 — 95 — 41 — 70 —

Cross belt broken driving shaker × 35 —

Waiting for heat 13 — 10 —

Dryer Screens blocked — 17

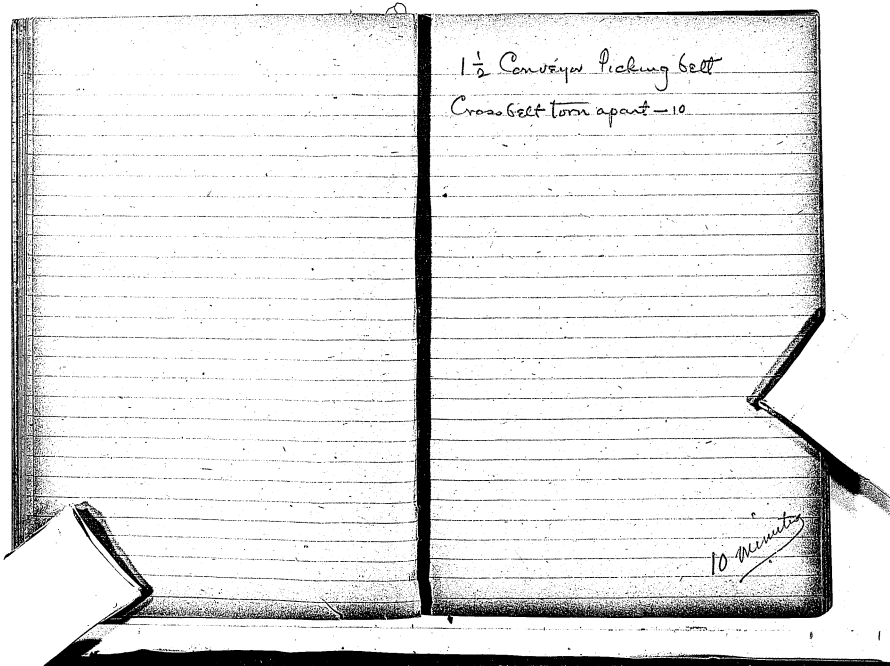
sprocket chain broken — 12

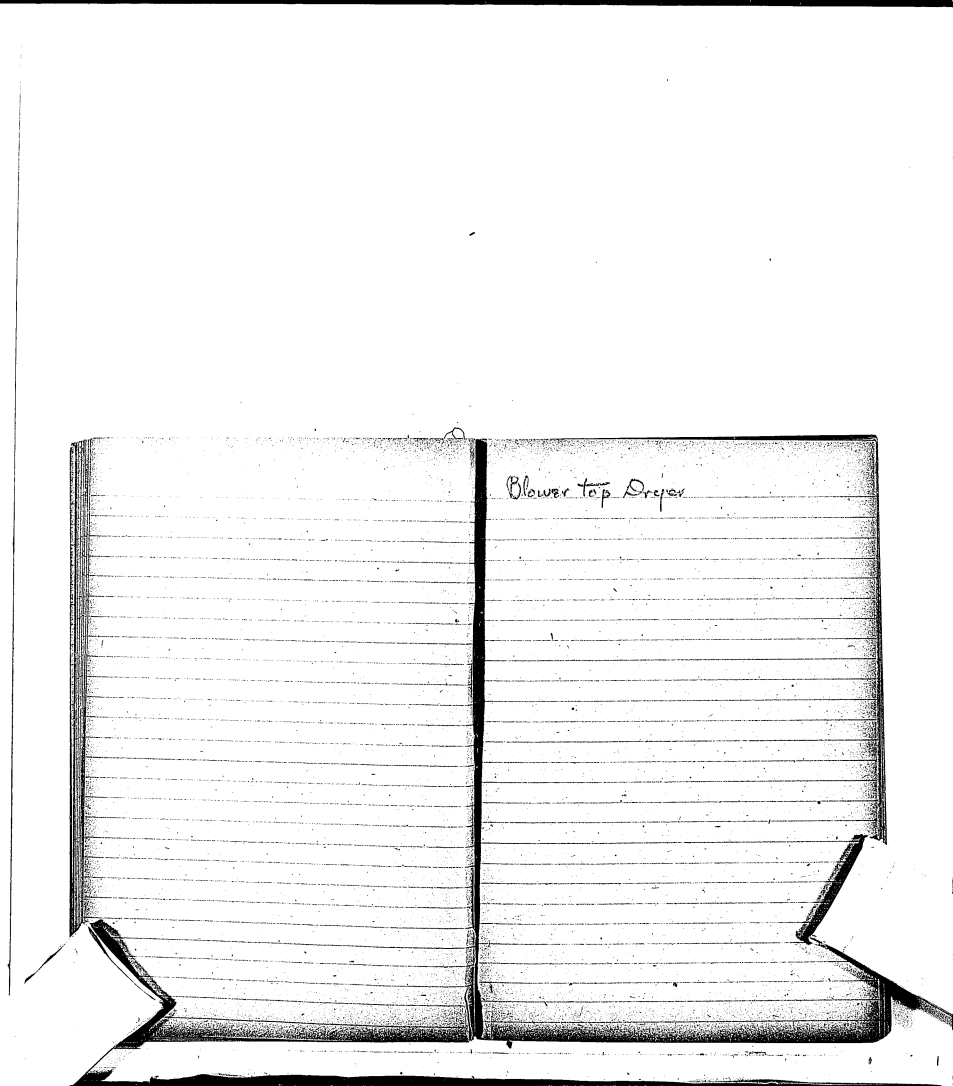
Changing drive on shaker sprocket 160 —

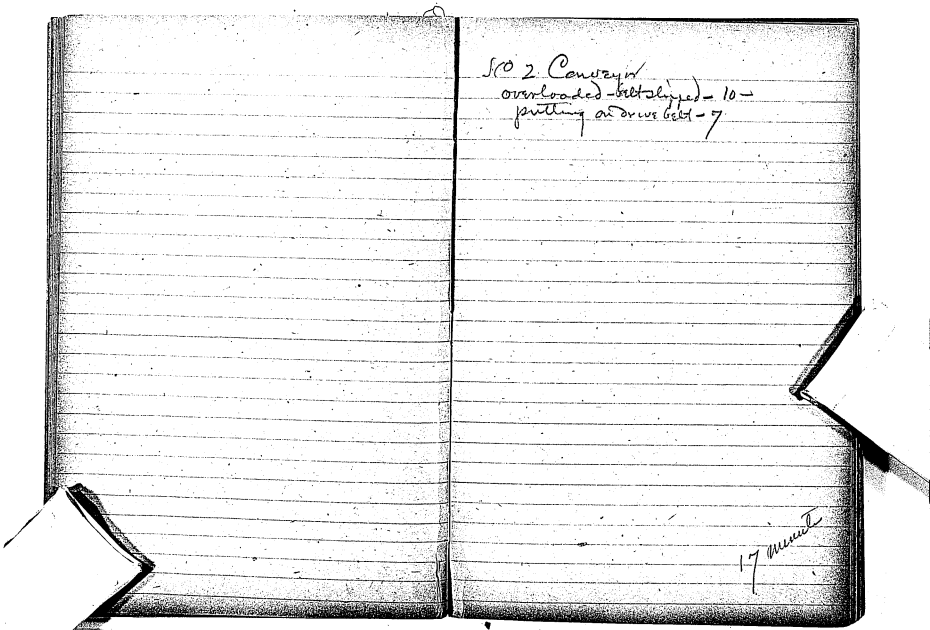
Belt off Countershaft shaker 18

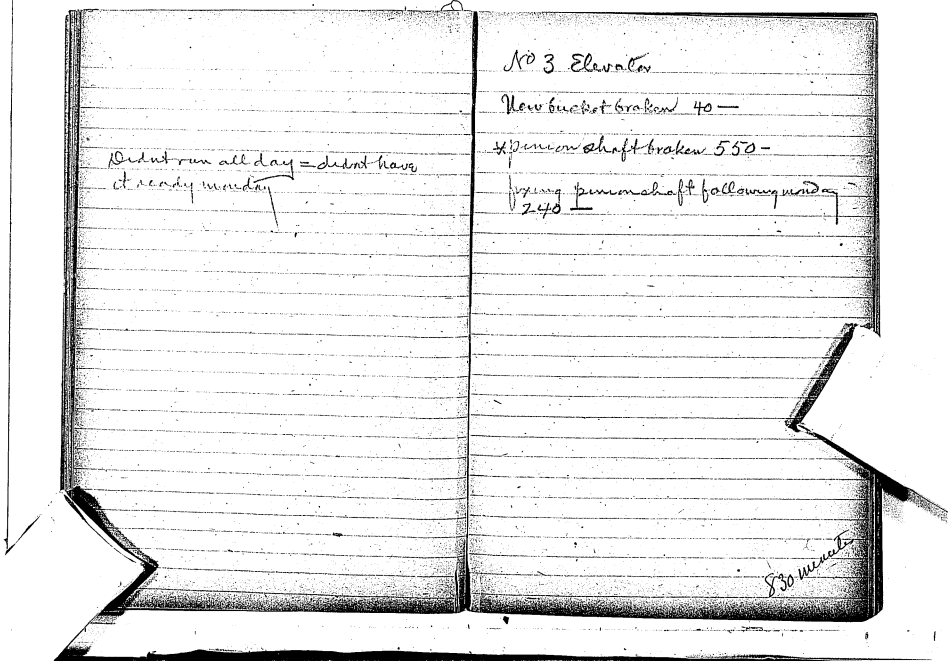
696 minutes

× 20" loss due to burning no 6" 6 ply B


1 ½ Conveyor Picking belt
Cross belt torn apart — 10
10 minutes


Blower top Dreyer


SRO 2 Conveyor
overloaded - belt slipped - 10 -
putting on drive belt - 7
17 minutes



No 3 Elevator
New bucket broken 40 —
4" Pennsylvania shaft broken 550 -
Fixing pump shaft following monday
240 —

Didnt run all day = didnt have it ready monday

830 minutes

245 minutes ended 6 pm

No 3 Conveyer –

Off track 175 – 33 – 40 – 245 – 10 = 12
6 –

Putting wheels on 5 – 6 – 2 = 8 –

Bait brake in guard rail – 22 –

Jumped teeth – 120 – 45 – 17 –

Bolts broken in buckets 34 – 6 – 11

putting bucket in 48

putting bolts in buckets 15

Changing over to 3 Con 98 –

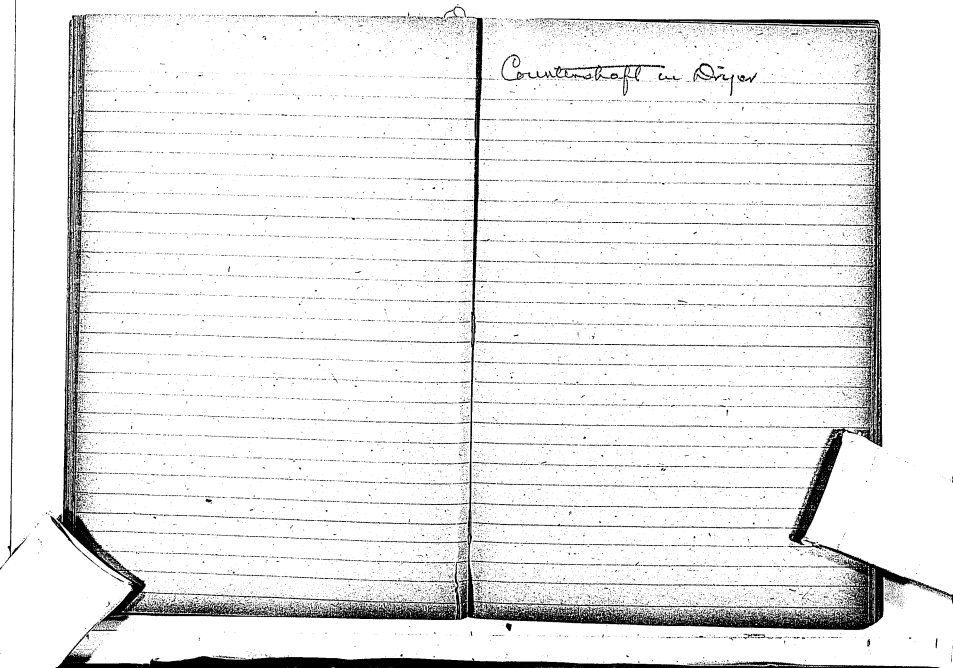
Bolt out 4 –

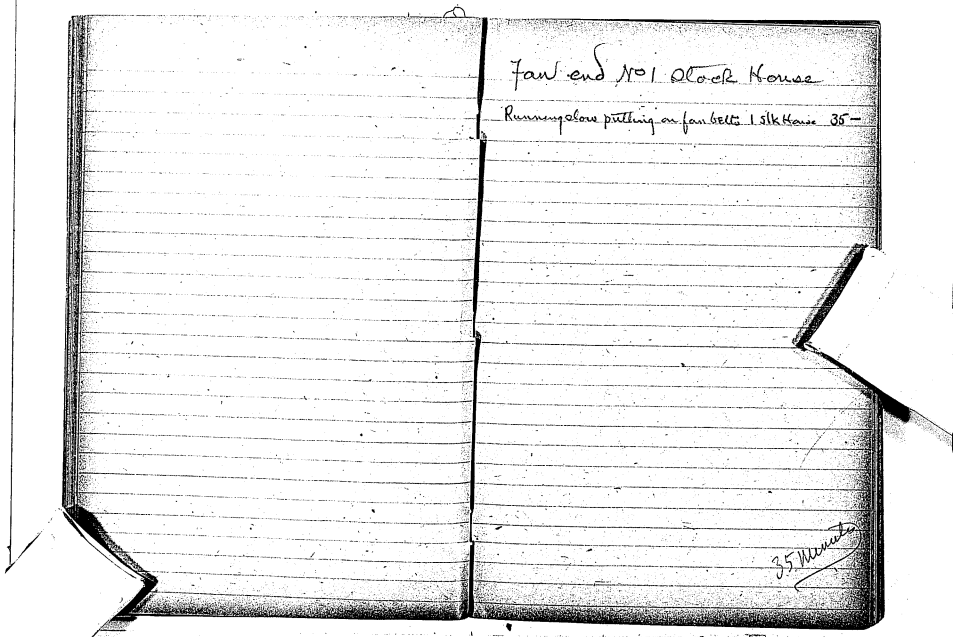
Throwing out 9th conveyor 7 – 6 – 10 – 10 – 11 –

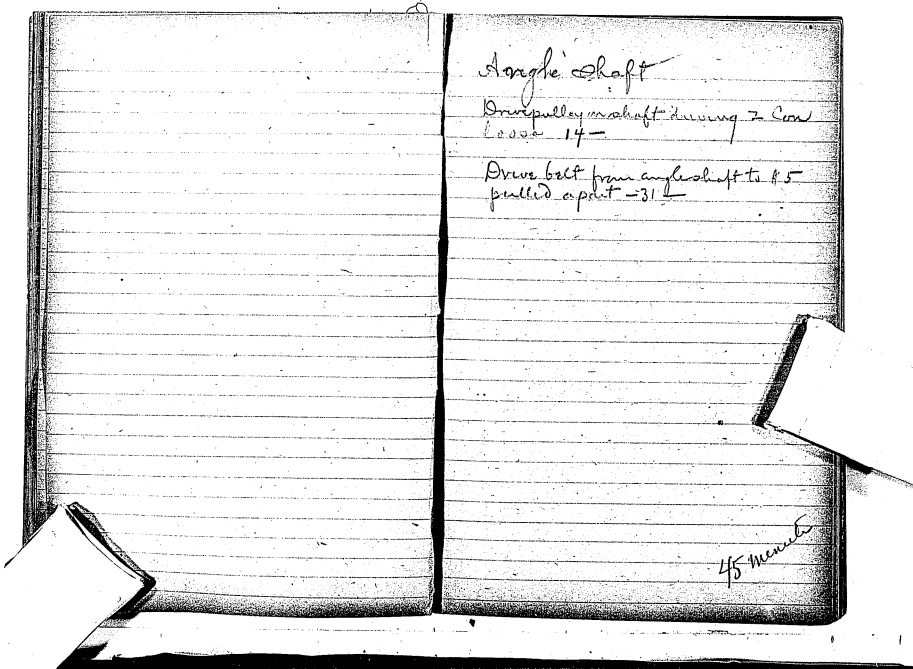
Sheared-caused gate off hopper got foot
Tail oplit – 15 – sheared 10 –

Outorder 186

1219 minutes


Courtemanche in Dijon

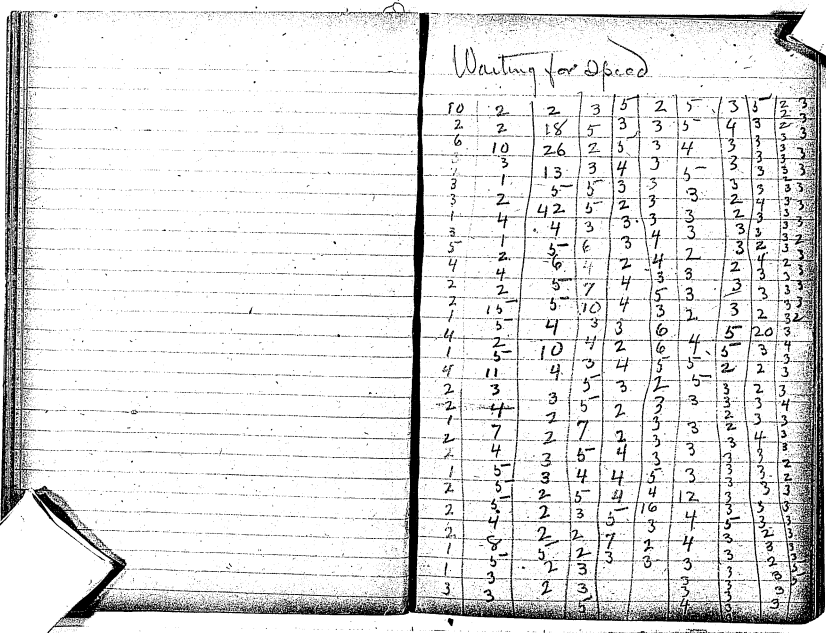

Jan end No 1 Clock House
Running alone putting on jan belts 1 silk House 35—
35 Minutes

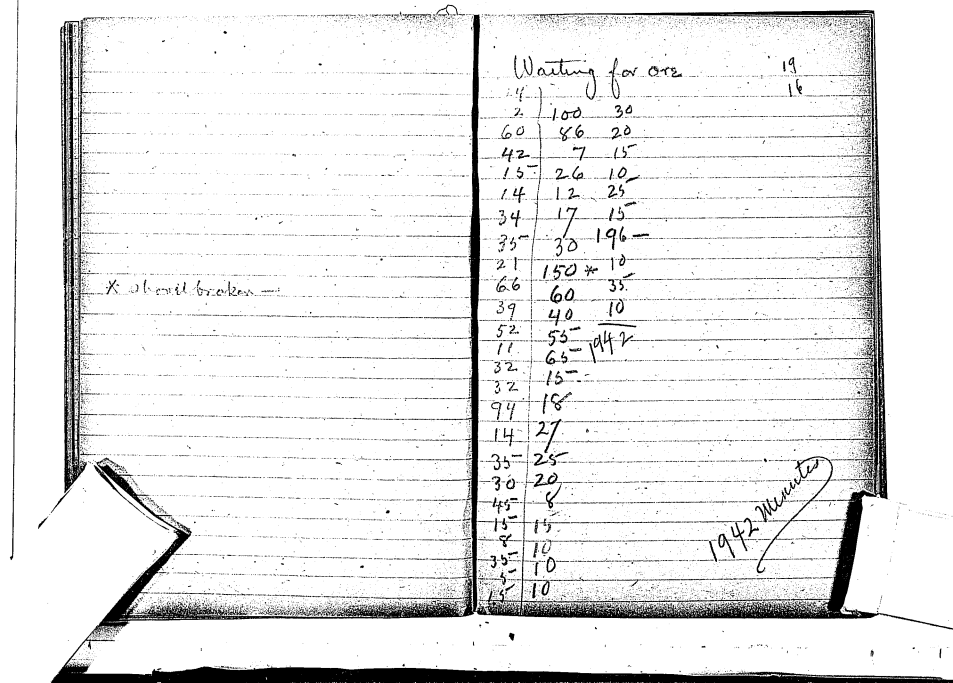

Angle shaft

Drive pulley on shaft driving 7 Cow
Loose 14—

Drive belt from angle shaft to #5
pulled apart —31—

45 minutes


Waiting for Speed

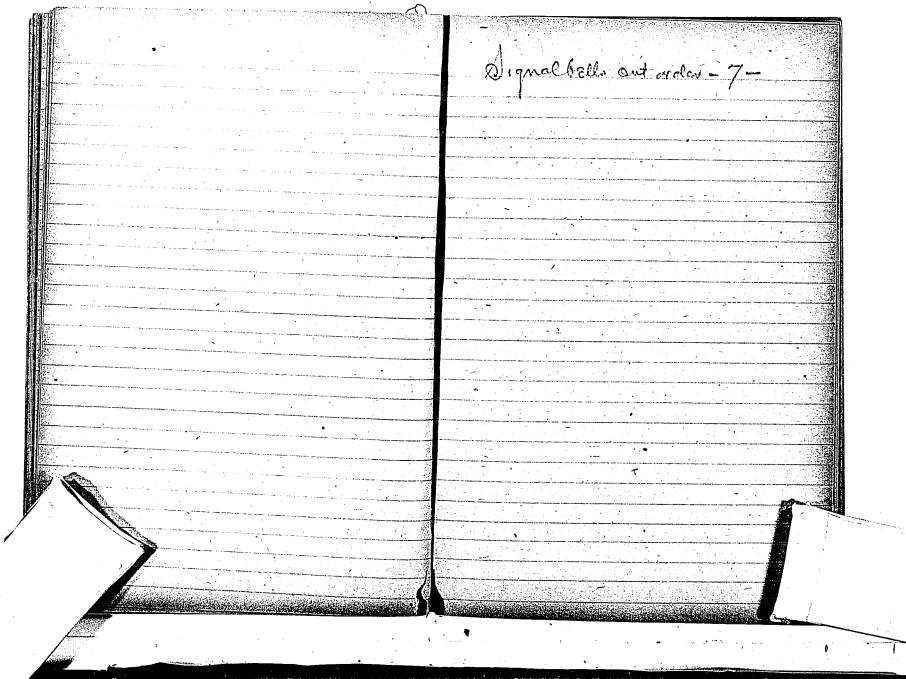


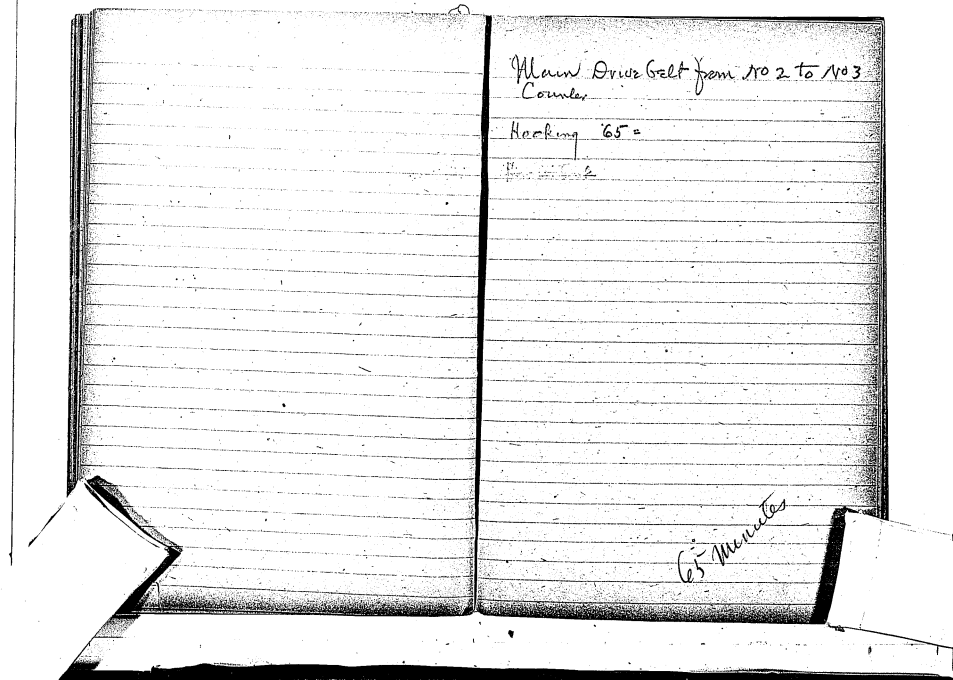
Waiting for ore 19 16

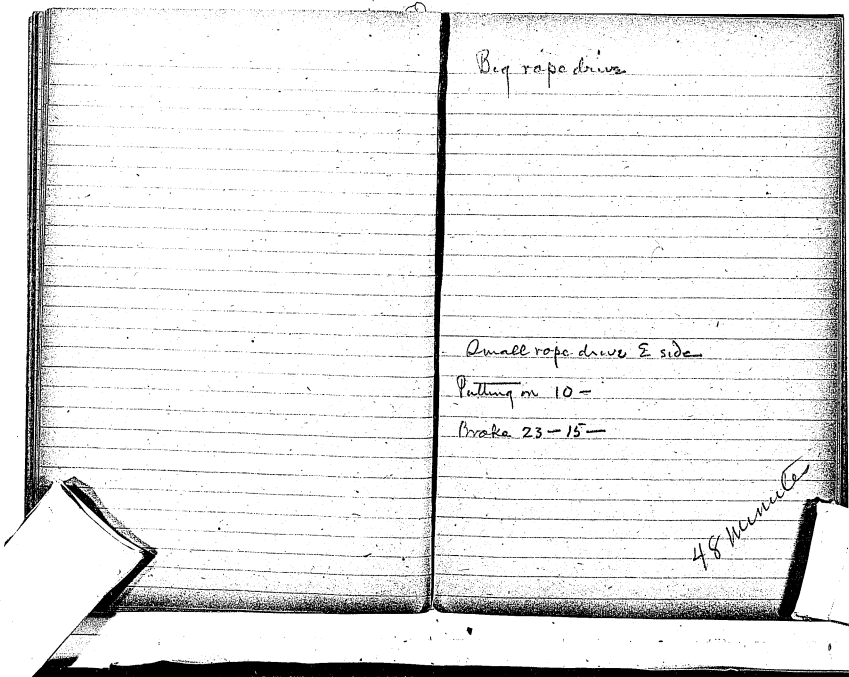
4		
2	100	30
60	86	20
42	7	15
15	26	10
14	12	25
34	17	15
35	30	196
21	150 *	10
66	60	35
39	40	10
52	55	1947
11	65	
32	15	
32		
94	18	
14	27	
35	25	
30	20	
45	8	
19	15	
8	10	
35	10	
4		
15	10	

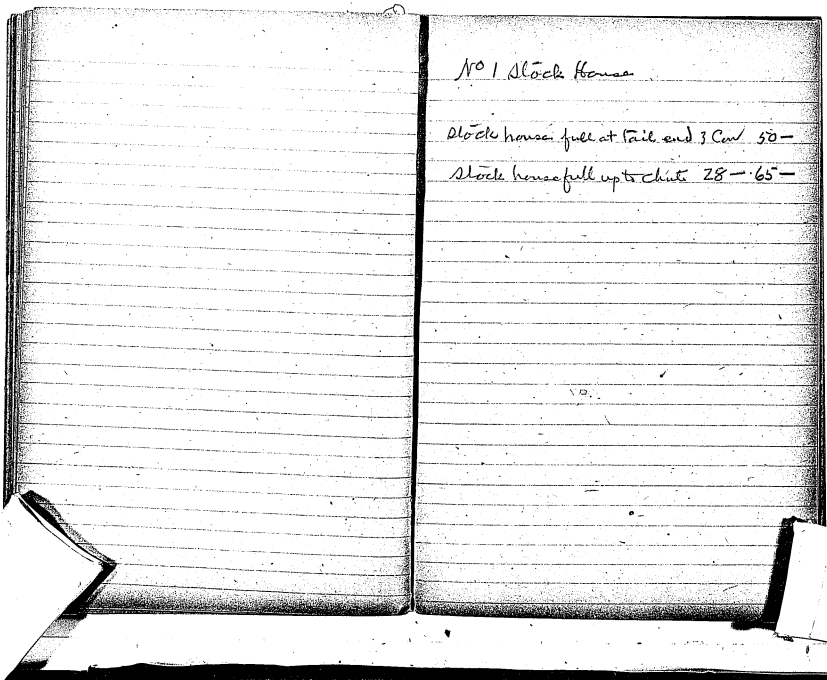
* Oberoil breaker

1942 Minutes


Signal bells out order - 7 -


Main Drive Belt from No 2 to No 3
Counter
Hooking '65 =
65 Minutes

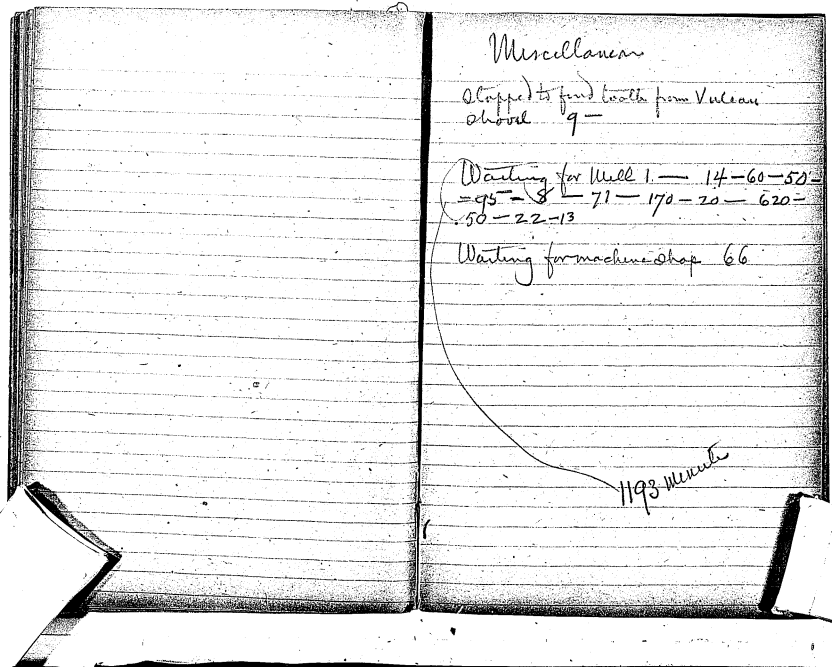

Big rope drive
Small rope drive E side
Pulley on 10 –
Brake 23 – 15 –
48 Mcmillan


No 1 Stock House

Stock house full at Tail end 3 Cwt 50—

Stock house full up to Chute 28—65—

10.



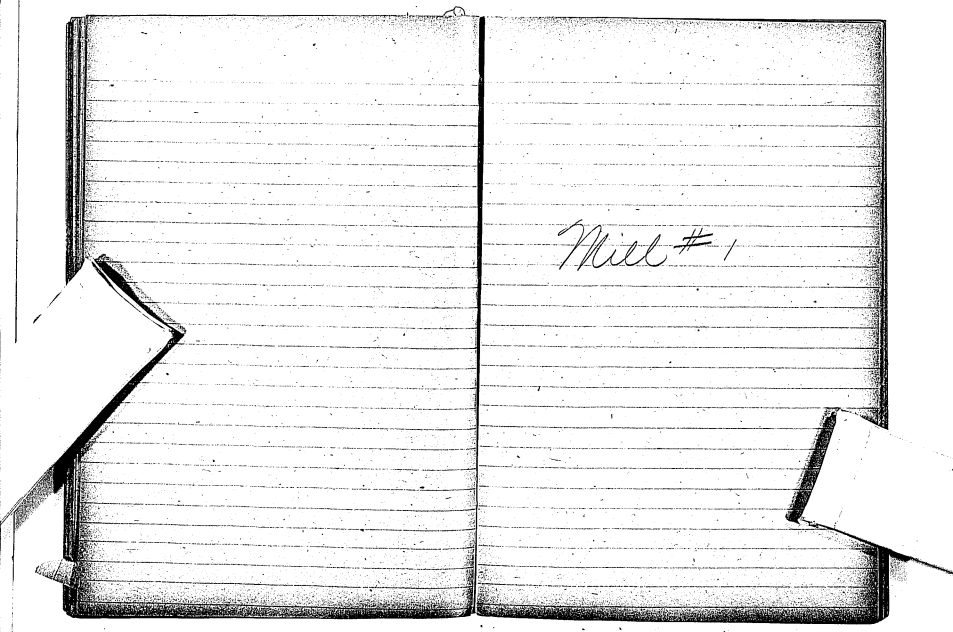
Miscellaneous

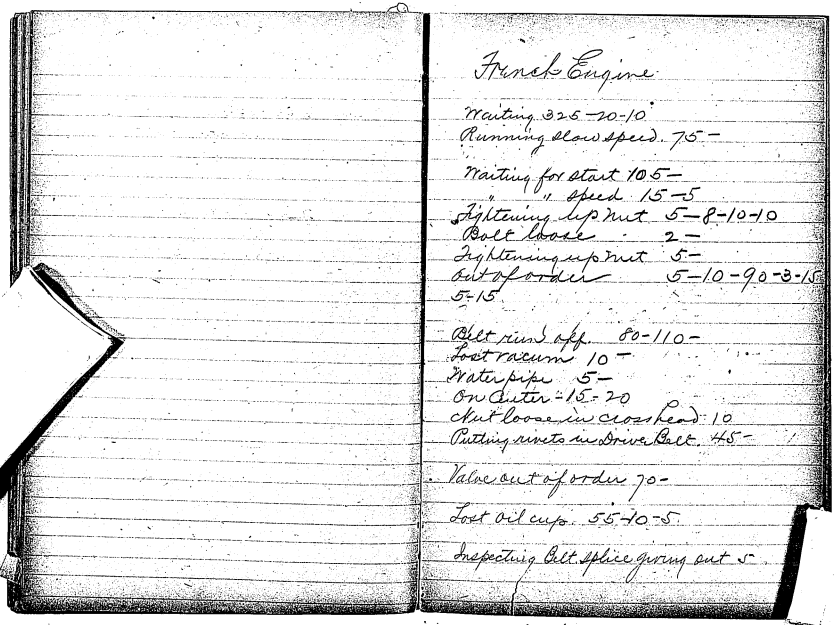
Clipped to front leaf from Vulcan about 9—

Waiting for Mill 1 — 14 — 60 — 50 — 95 — 8 — 71 — 170 — 20 — 620 — 50 — 22 — 13

Waiting for machine shop 66

1193 Minutes


Mill # 1



French Engine

Waiting 325-20-10
Running slow speed. 75-

Waiting for start 105-
" " speed 15-5
Tightening up nut 5-8-10-10
Belt loose 2-
Tightening up nut 5-
Out of order 5-10-90-8-15
5-15

Belt run off 80-110-
Lost vacuum 10-
Water pipe 5-
On Cutter 15-20
Nut loose in crosshead 10
Putting nuts in Drive Belt 45-

Valve out of order 70-

Lost oil cups 55-10-5

Inspecting Belt splice going out 5

French Engine Continued -

Belt slipped 5

Plowed down rockered 1st 14 m. Belt too large for wobbler 90

Out 10

Tightening up crosshead 5

Bell out of order 30 -

318 Mm

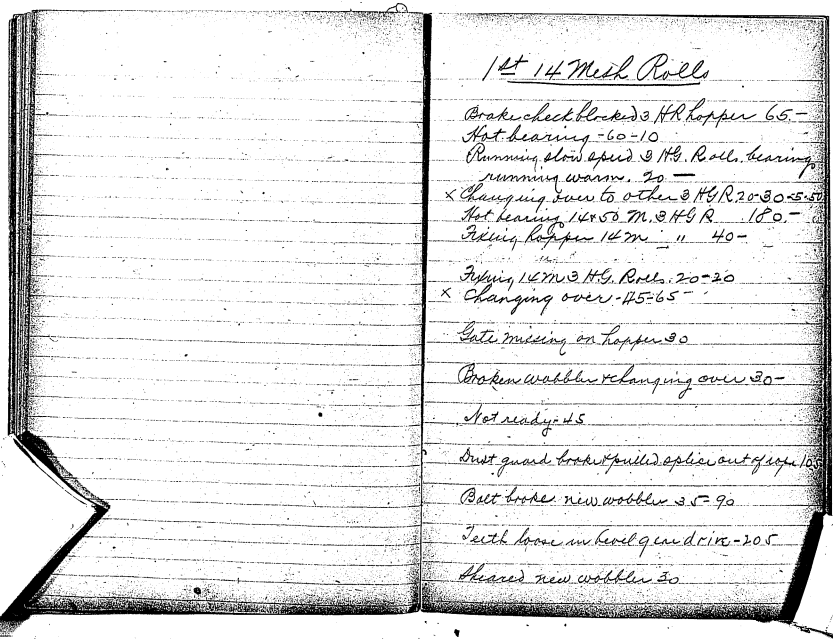
No 4 Elev.

Tracking 20 -
Oil casing rubbing gear 55 -
Sheared 15 - 25

Turning to try new bucket 40

Broke teeth on motive gear 260

Sheared 10



1st 14 Mesh Rolls

Brake check blocked 3 H.R hopper 65-
Hot bearing -60-10
Running slow spin 3 H.G. Rolls. bearing running warm. 20 —
× Changing over to other 3 H.G.R. 20-30-5-50
Hot bearing 14×50 M. 3 H.G.R. 180-
Fixing hopper 14 M " " 40-

Tying 14 M 3 H.G. Rolls. 20-20
× Changing over -45-65

Gate missing on hopper 30

Broken wobbler changing over 30-

Not ready-45

Dust guard broke pulled spike out of top 10

Belt broke new wobbler 35-90

Teeth loose in bevel gear drive -20 5

Sheared new wobbler 30

1st 14 M Rolls continued

Sheared - 40 - 105 - 130 - 90 - 25 - 25

Fitting Countershaft - 100

McIntosh Engine

Waiting for speed 40 - 40 - 15

On Center 20 - 20 - 10 - 15 - 20 - 90 -

× Hot pin 35 - 90 - 60 - 60 - 100 - 160 - 160 - 40

Out of Order 135 -

Coupling up to main Shaft. 15 - 40 - 10

Waiting - 135 - 190

Broke down - 270 - 600 600 600 600 600

Governor Broke 105 - 320 -

~~Pipe Line 600~~

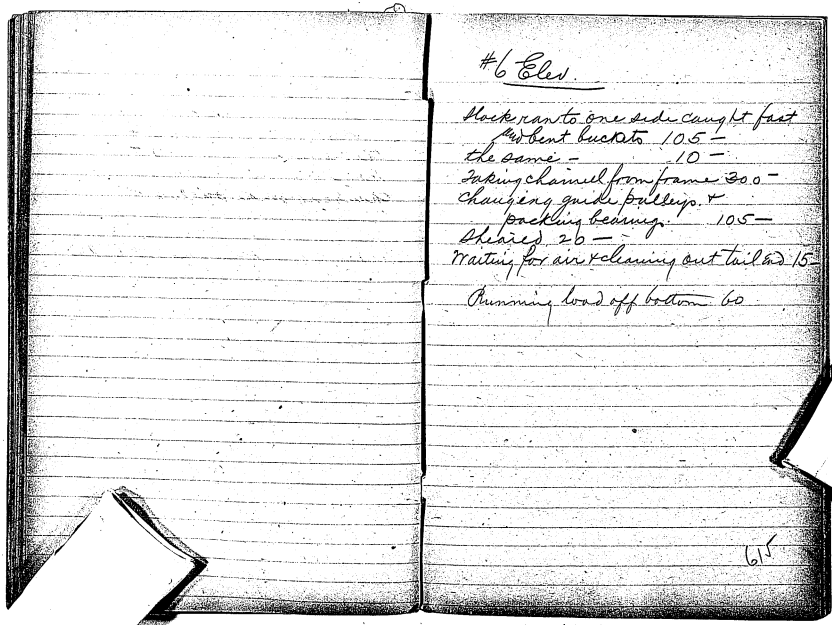
Nut loose 5 - 5

× Hot pin 155 - 10

Hot bearing main Shaft 50

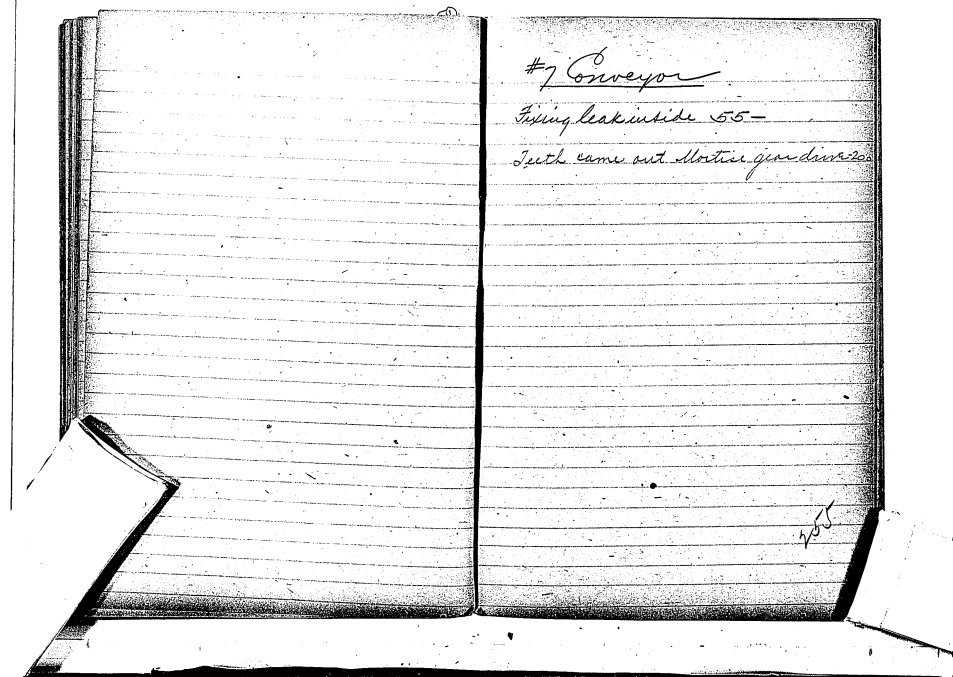
Valve out of order 10 -

Broke Valve stem 145 -



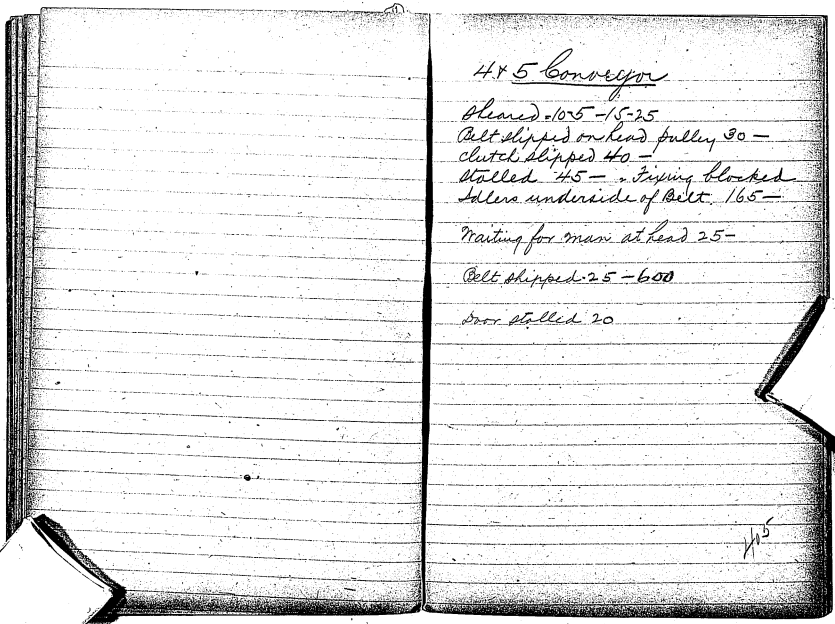
#6 Elev.

Hook ran to one side caught fast
[illegible] bent buckets 10/-
the same - 10/-
Taking channel from frame 30/-
Changing guide pulleys. &
packing bearing. 10/-
Shears 2/6
Waiting for air & clearing out tail end 15/-
Running load off bottom 6/0


#7 Conveyor

Fixing leak inside 55-

Teeth came out Mortise gear drive 20



4 & 5 Conveyor

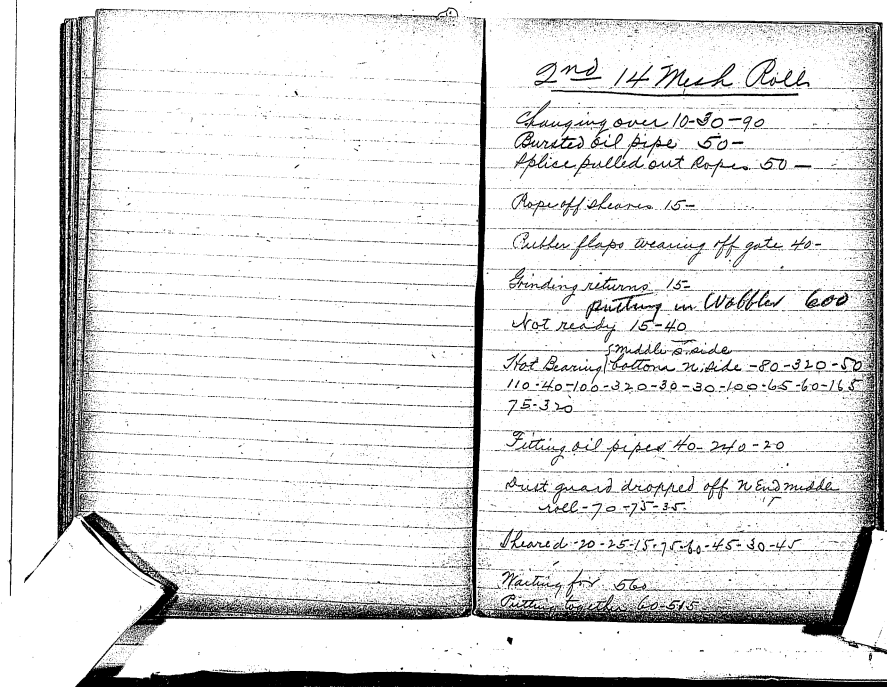
Cleaned 10-5 - 15-25
Belt slipped on head pulley 30 —
clutch slipped 40 —
Stalled #5 — Tipping blocked
Idlers underside of Belt 165 —

Waiting for man at head 25 -

Belt slipped 25 - 600

Door stalled 20

#5



2nd 14 Mesh Roll

Changing over 10-30-90
Bursted oil pipe 50-
Splice pulled out Rope 50—

Rope off sheave 15—

Rubber flaps wearing off gate 40-

Grinding returns 15-
printing on Webbler 600
Not ready 16-40
Middle & side
Hot Bearing Bottom N. side -80-320-50
110-40-100-320-30-30-100-65-60-165
75-320

Fitting oil pipes 40-240-20

Dust guard dropped off N End middle roll-70-75-35

Reared-20-25-15-75-60-45-30-45

Waiting for 566
Putting on the 60-515

2d 14 M Rolls Continued

Patching Hopper-15

Drip pipe blocked 60

Pipe broke 60

Fitting up. 10

Fixing #1 hopper 85

2d 50 Mesh Roll

No Oil 2d end bearing bottom south side 65—

Rope jumped off 3 Hgm sheave 5-10

Splice pulled out 3 Lg. roll rope 135—20

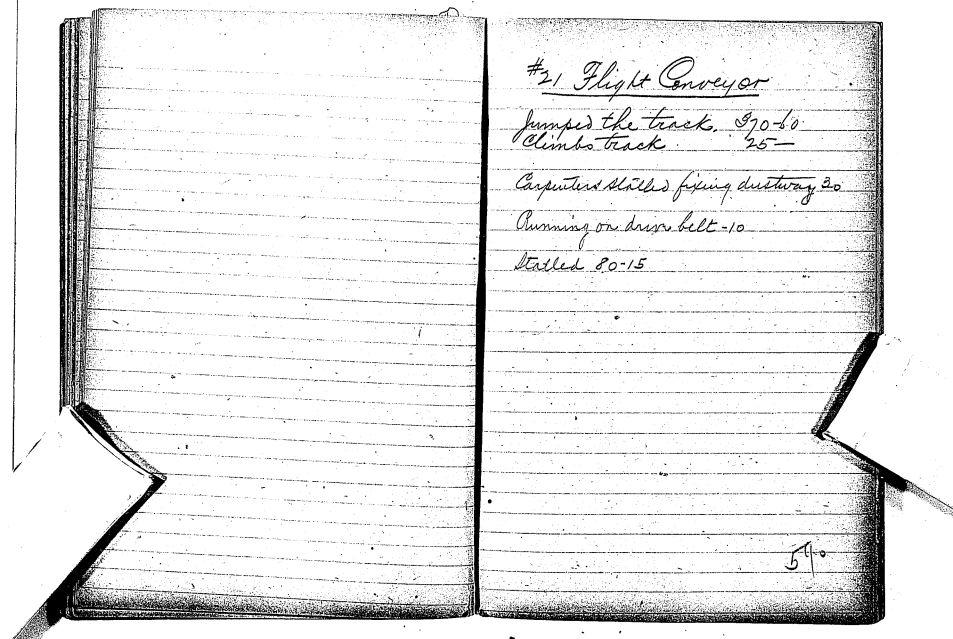
Clamping over 15—30—

New Wobbler out of order - 90-30

Hot Bearing S side 135

Hot bearing 600.

" 600



#2 Flight Conveyor

Jumped the track. 970-10
Climbs track 25—

Carpenters skilled fixing dustway 20

Running on drive belt -10

Stalled 80-15

5/10

#19 Conveyor

Lifting delivery tail 40-
Hot bearing on motor driving 70-
Motor driving #19 Con out of ord. 30-
-25

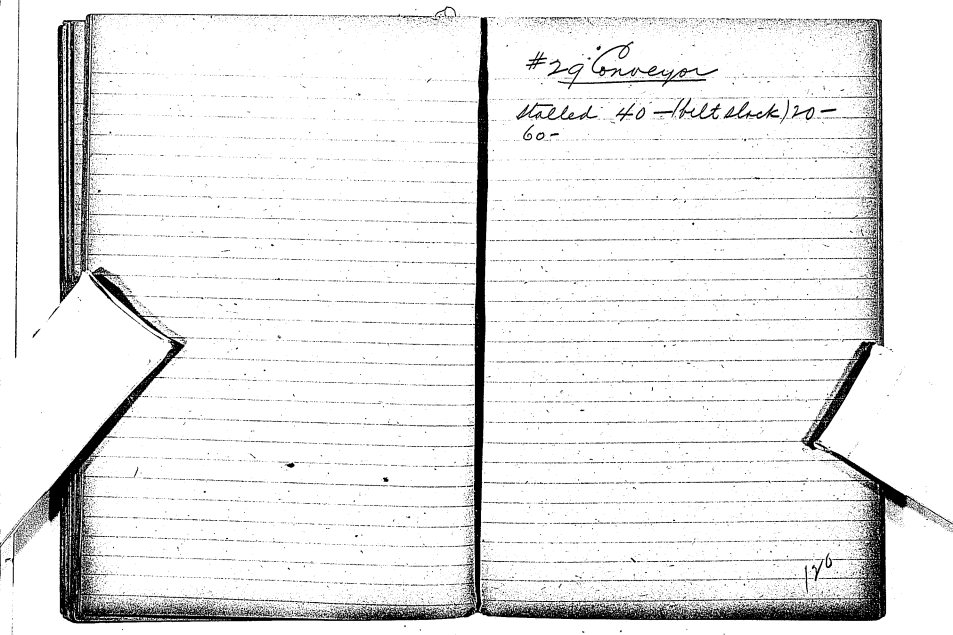
Stalled 25-

#19 x 30 Con stalled 5-10-30-N-10

Bolt broke in split gear on #19 Con
motor broke teeth 35-

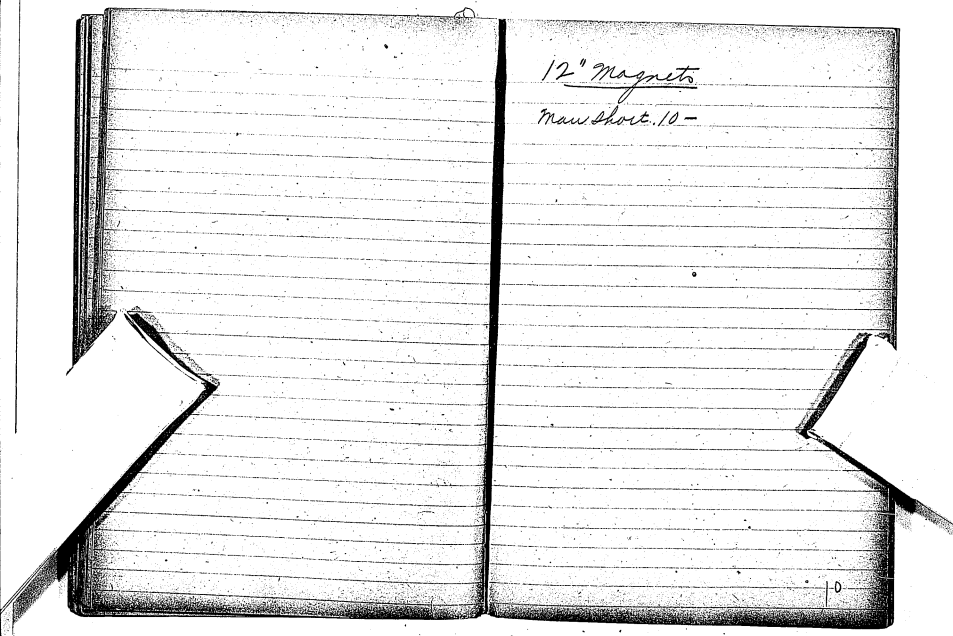
#19 Con Motor stalled 20-15-25

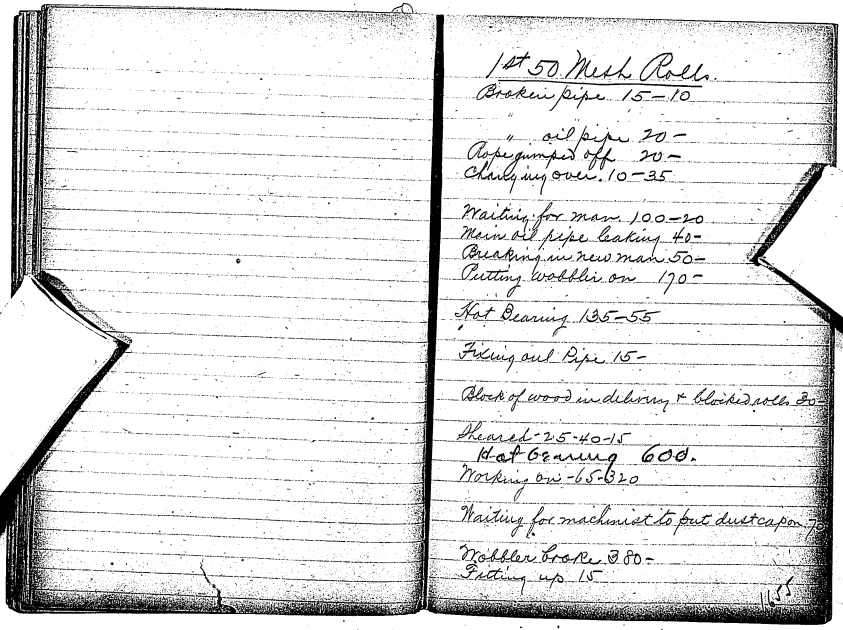
Belts break in gears #19 Con Motor
& dropped down in Oil casing 70


#29 Conveyor

Stalled 40 – (Belt slack) 20 – 60 –

176


12" Magnets
Maw short. 10 –
10



1st 50 Mesh Rolls.
Broken pipe 15-10
" oil pipe 20-
Rope jumped off 20-
Changing over. 10-35

Waiting for man 100-20
Main oil pipe leaking 40-
Breaking in new man 50-
Putting wobbler on 170-

Hot Bearing 135-55

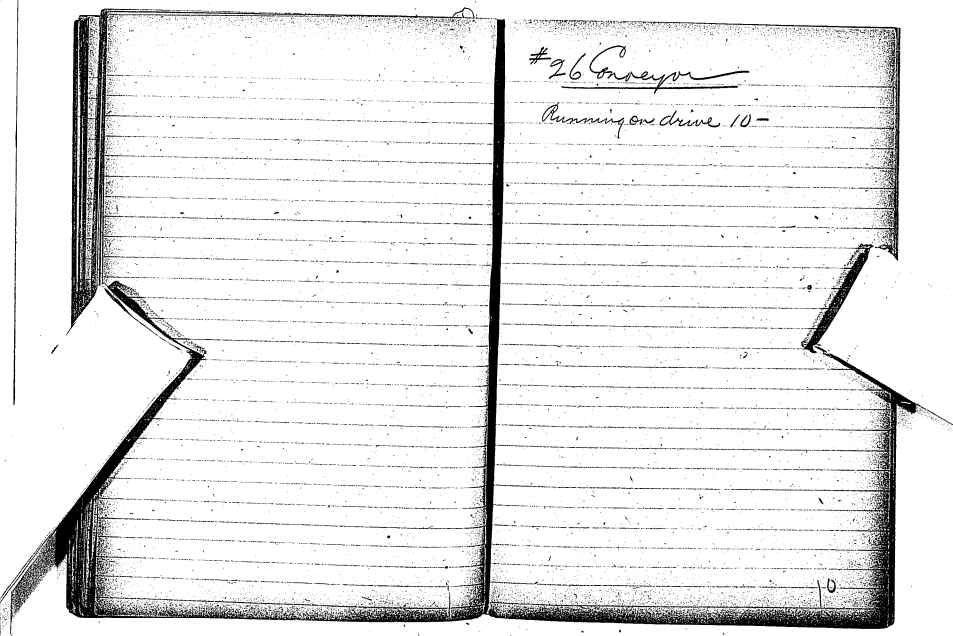
Fixing oil Pipe 15-

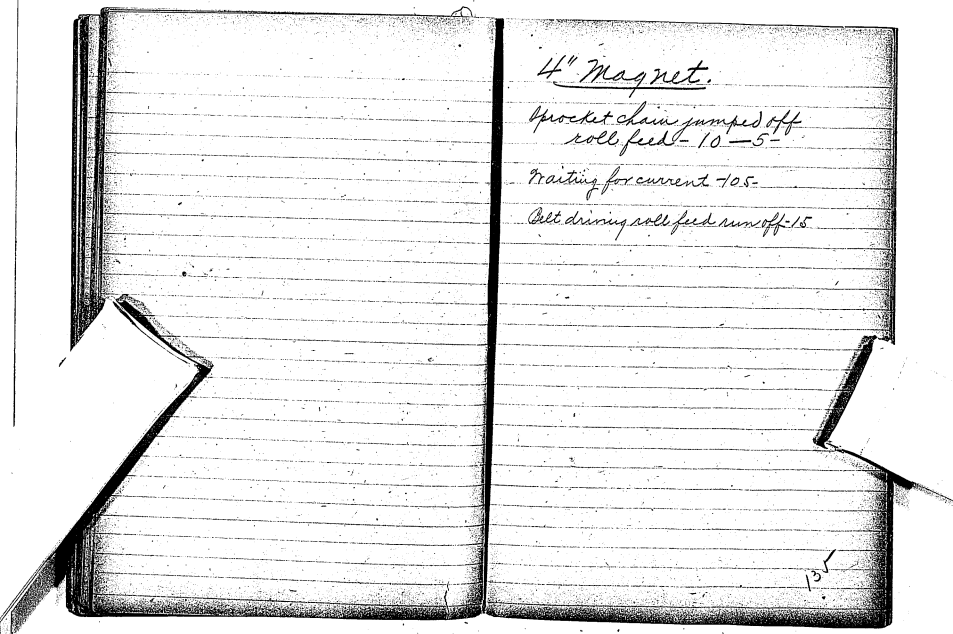
Block of wood in delivery + blocked rolls 30

Sheared-25-40-15
Hot Bearing 600.
Working on-65-620

Waiting for machinist to put dust caps 70

Wobbler broke 380-
Fitting up 15


#26 Conveyor
Running on drive 10-
10

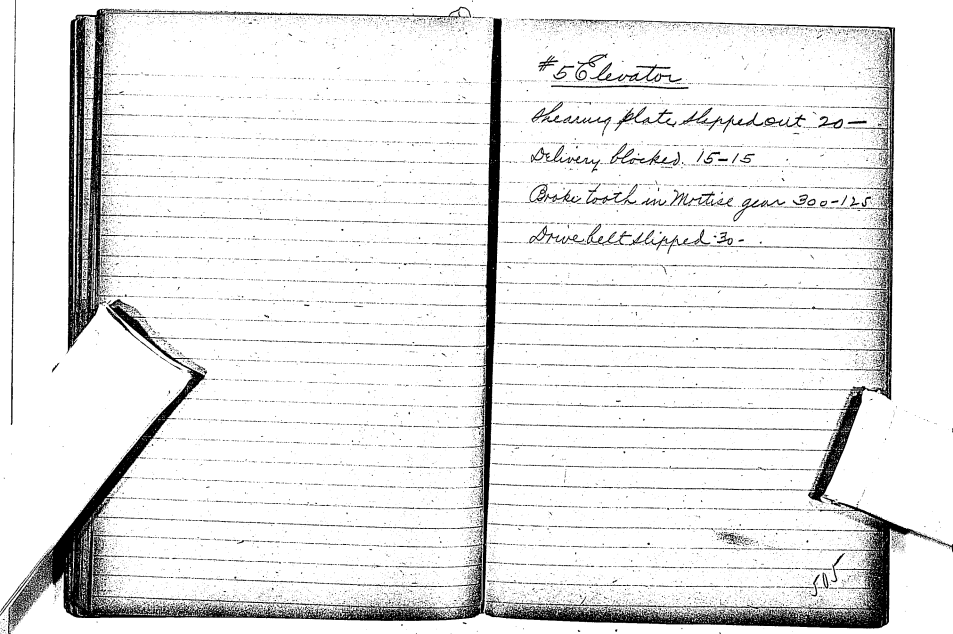

4" Magnet.

Sprocket chain jumped off roll feed - 10 — 5 -

Waiting for current - 10 5 -

Belt driving roll feed run off - 15

15

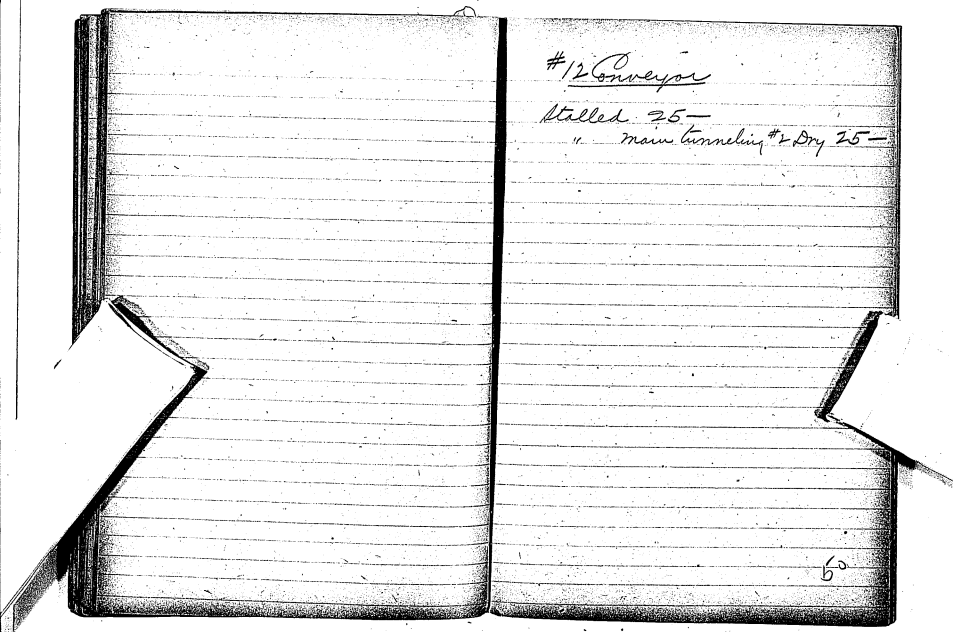

#5 Elevator

Shearing plate stripped out 20—

Delivery blocked 15-15

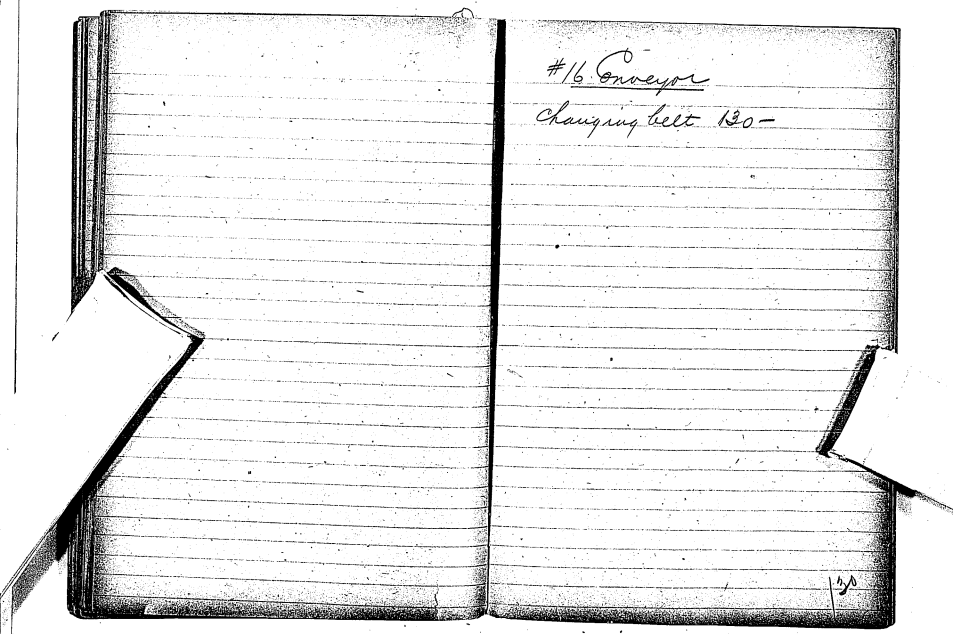
Broke tooth in Mortise gear 300-125

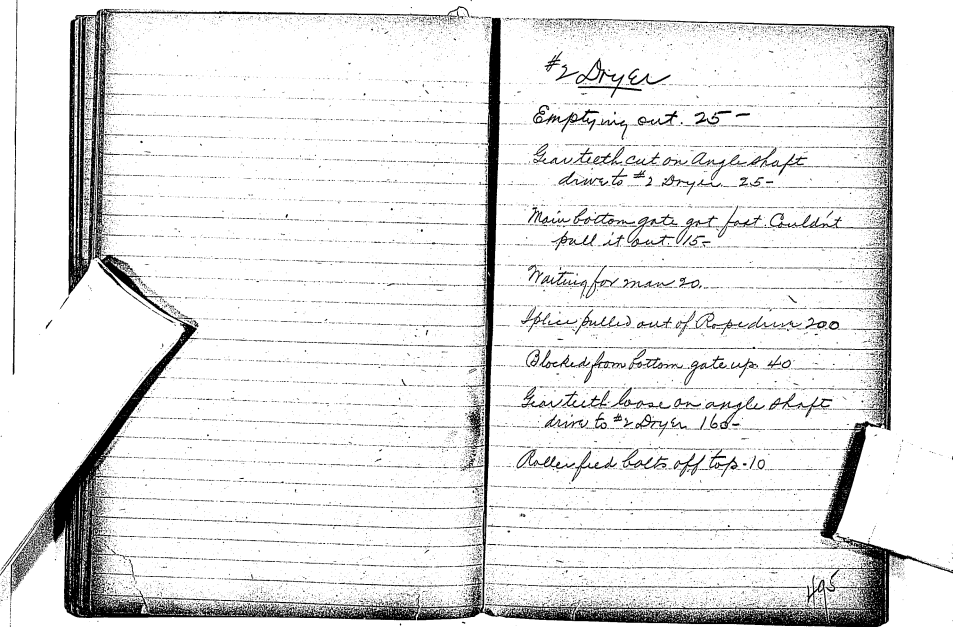
Drive belt slipped 30-


#12 Conveyor

Stalled 25—

" Main tunneling #2 Dry 25—


#16 Conveyor
Changing belt 120-



#2 Dryer

Emptying out. 25-

Gear teeth cut on Angle shaft drive to #2 Dryer 2.5-

Main bottom gate got fast Couldn't pull it out 1.15-

Waiting for man 20.

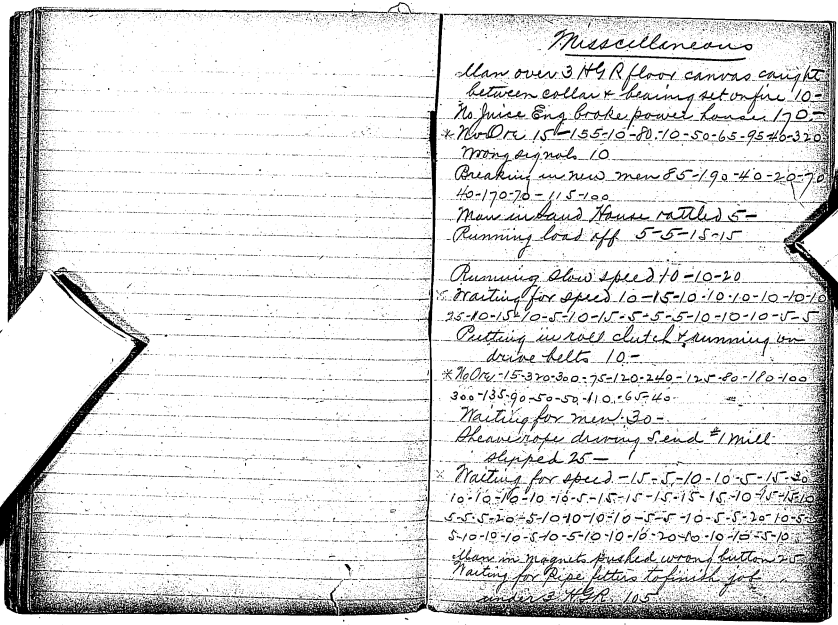
Splice pulled out of Rope drive 2.00

Blocked from bottom gate up 40

Gear teeth loose on angle shaft drive to #2 Dryer 1.65-

Rollers fed belts off tops .10

195



Miscellaneous

Man over 3 H & R floor canvas caught between collar & bearing set on fire 10-
No Juice Eng Brake power hoist 170-
* No Occ 15-155-10-80-10-50-65-95 #6-320
Wrong signals 10
Breaking in new men 85-190-40-20-70
40-170-70-115-100
Man in hand House rattled 5-
Running load off 5-5-15-15
Running slow speed 10-10-20
* Waiting for speed 10-15-10-10-10-10-10-10-10
35-10-15-10-5-10-15-5-5-5-10-10-10-5-5
Putting in roll clutch & running on drive belts 10-
* No Occ-15-370-300-75-120-240-125-80-180-100
300-135-90-50-50-110-65-40
Waiting for men 30-
Heave rope during Send #1 mill slipped 25-
* Waiting for speed-15-5-10-10-5-15-30
10-10-10-10-10-5-15-15-15-15-10-15-15-10
5-5-5-20-5-10-10-10-5-5-10-5-5-20-10-5-
5-10-10-10-5-10-5-10-10-10-20-10-10-15-5-10
Heave in magnets pushed wrong button 15
Waiting for Pipe fitters to finish job
Service H & R 105

Miscellaneous Continued

Waiting for Steam 20

Ripped logging on pulley drive N. End #1 Mill 65

No Oil 60

Some one monkeying with belts 15

Waiting for cleaning belts 65

#19+30 motors stalled 10-10-40-20-

Logging off pulley dynamo power Loc-10

Waiting for air-10-130

Taking out slack on Sprocket chain driving #14+27 Con 120

Waiting for current-15-15

Linoleum cleaner pushed 4 bells 10

Waiting for Power House 10

Miscellaneous Continued

Waiting for Sand house changing mixers 20

Running on belt 10

Hot box in Power house 45-

Logging down off #32 Dy noms. Power House 30-

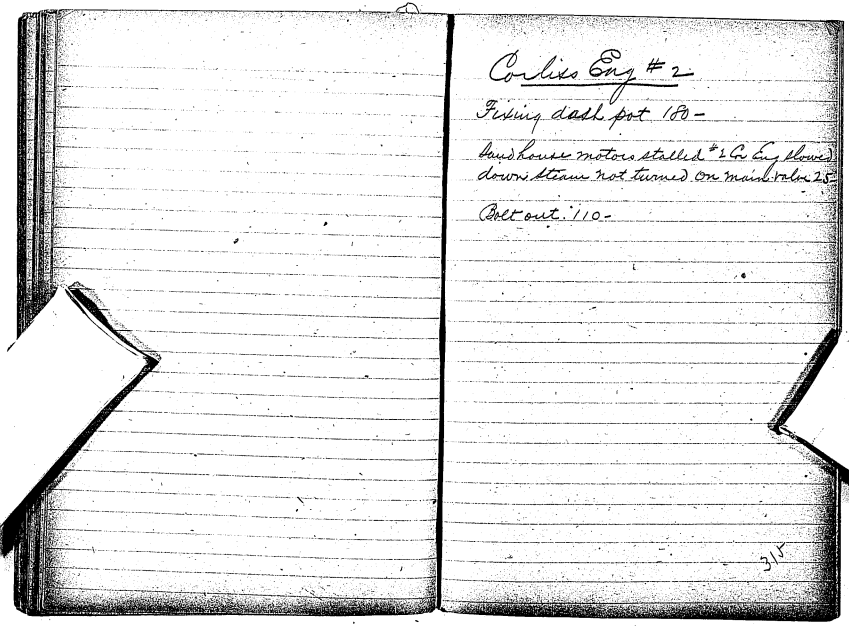
Breaking in new oiler 25

Running load of Mill #1 30

Cleaning Mill 570-

Brake gear on blower floor 600

6/11.0



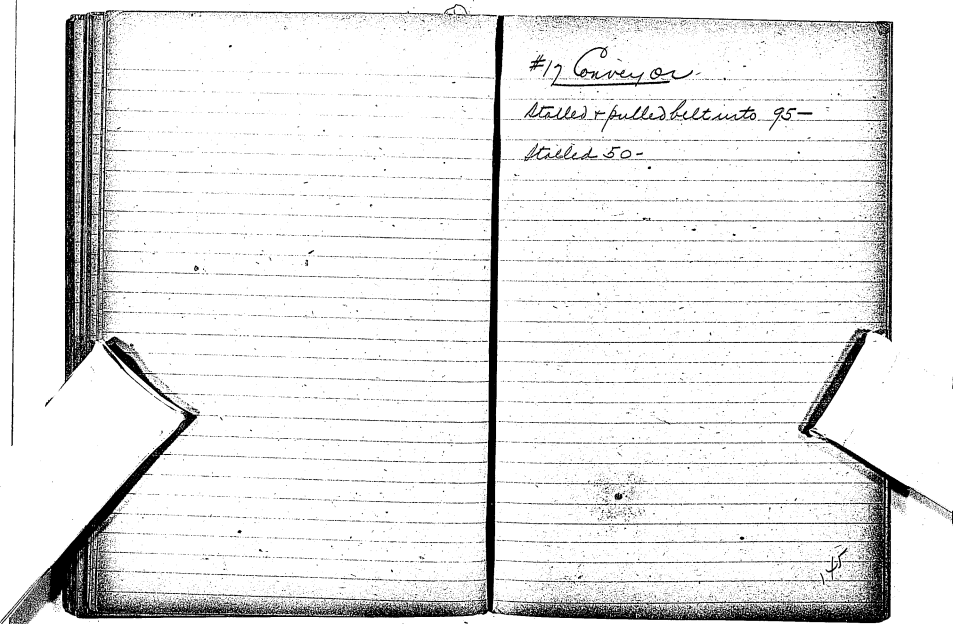
Corliss Eng. # 2

Firing dash pot 180 -

Sand house motors stalled # 2 Cr Eng blowed down Steam not turned on main valve 25

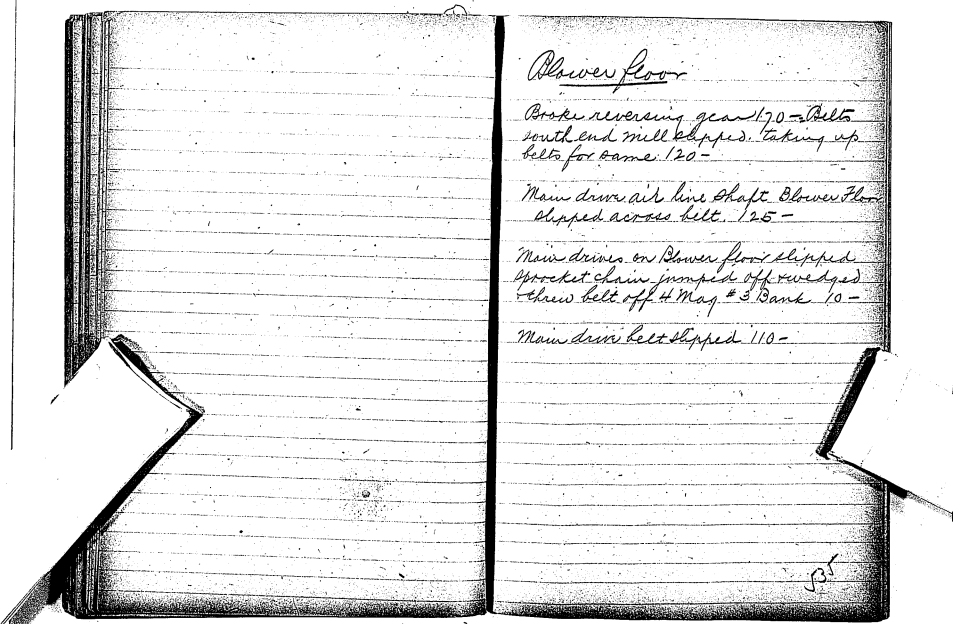
Belt out 110 -

315


#17 Conveyor

Stalled + pulled belt unto 95—

Stalled 50-



Blower floor

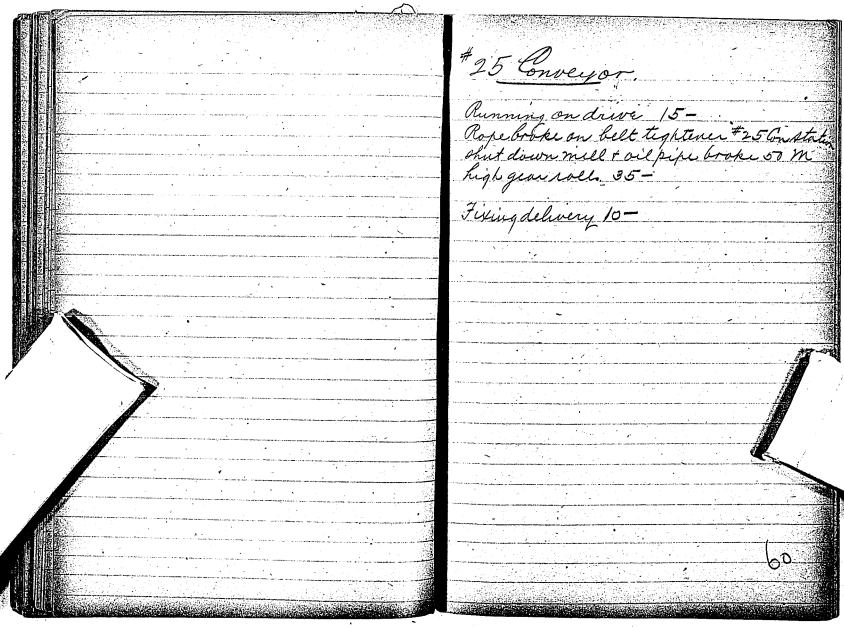
Broke reversing gear 1:20 – Belts south end mill slipped. taking up belts for same 1:20 –

Main drive air line Shaft Blower Floor slipped across belt. 1:25 –

Main drives on Blower floor slipped sprocket chain jumped off wedges threw belt off #4 Mag #3 Bank 1:0 –

Main drive belt slipped 1:10 –

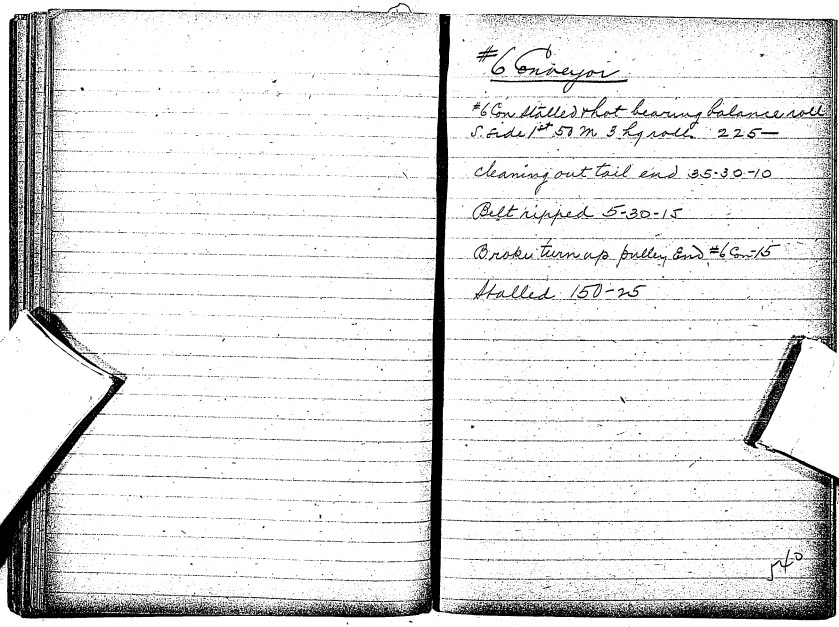
35



#25 Conveyor.

Running on drive 15–
Rope broke on belt tightener #25 Conveyor
shut down mill + oil pipe broke 50 M
high gear roll 35–

Fixing delivery 10–



#6 Conveyor

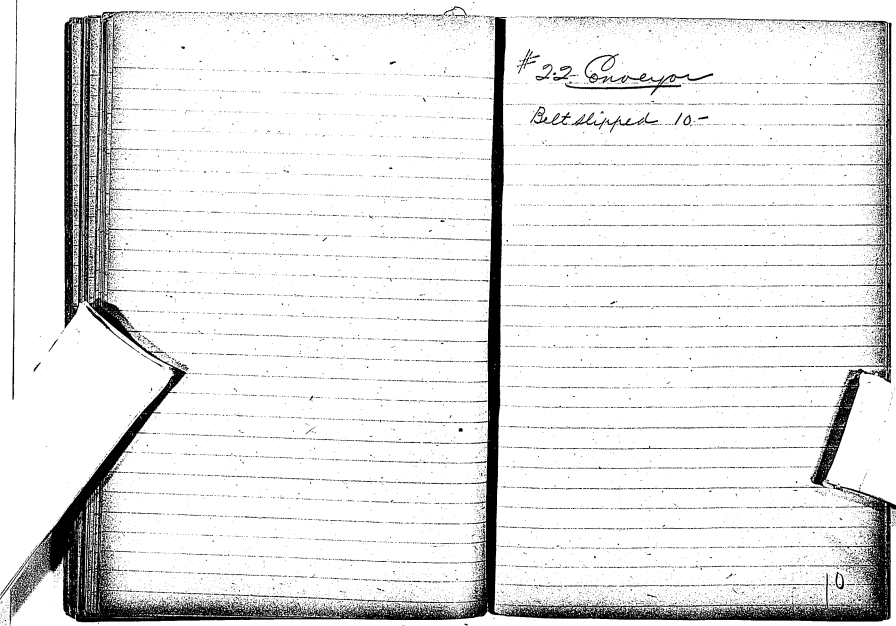
#6 Con stalled shot bearing balance roll South side 1st 50 M 3 hy roll 2.25—

cleaning out tail end 5-30-10

Belt ripped 5-30-15

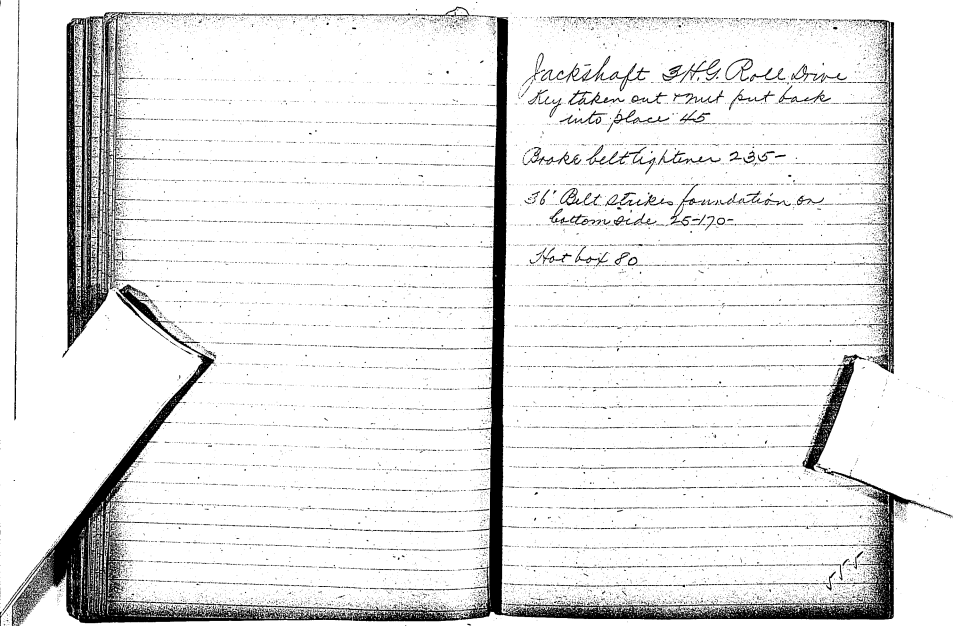
Broke turn up pulley End #6 Con 15

Stalled 150-25


#22 Conveyor

Belt slipped 10-

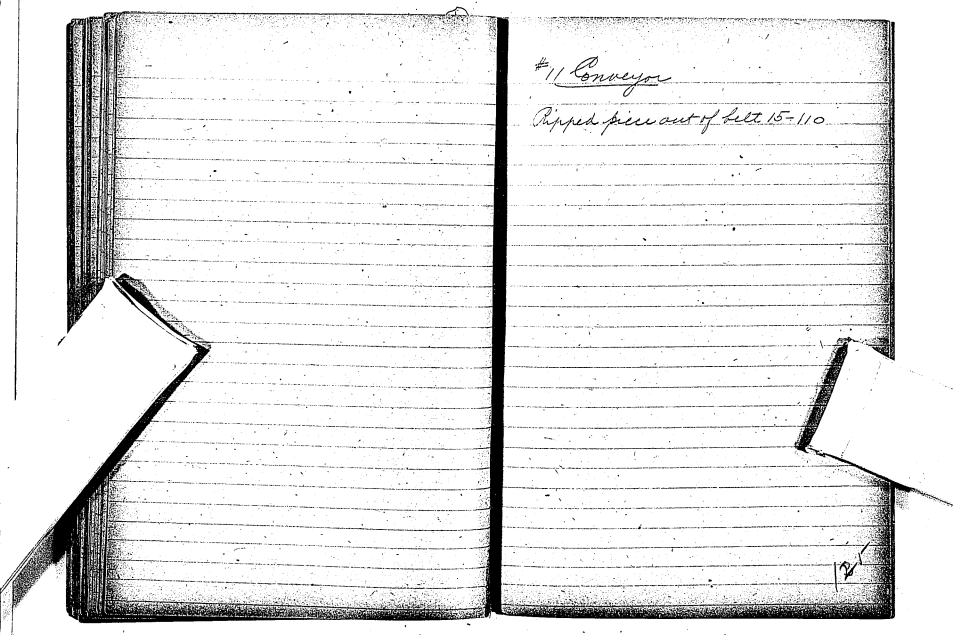
10

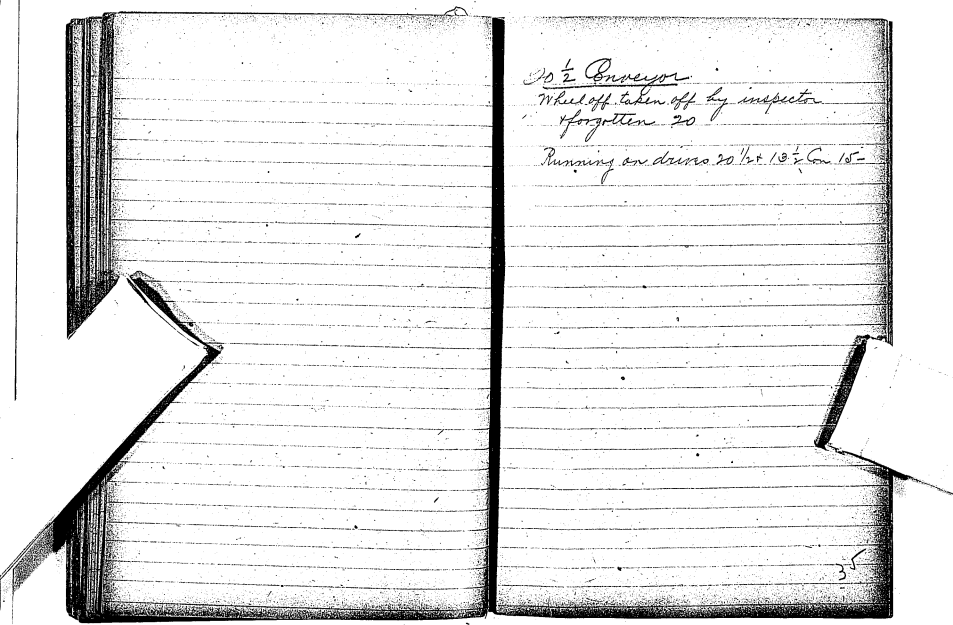

Jackshaft S.H.G. Roll Drive
Key taken out must put back into place 45

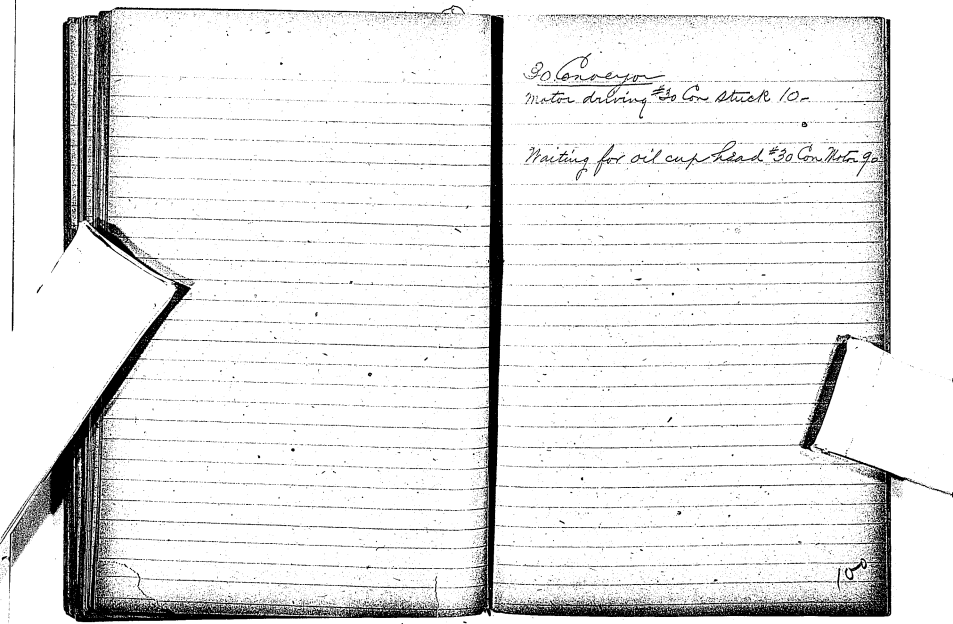
Broke belt tightener 2.35-

36' Belt strikes foundation on bottom side 25-170-

Hot box 80

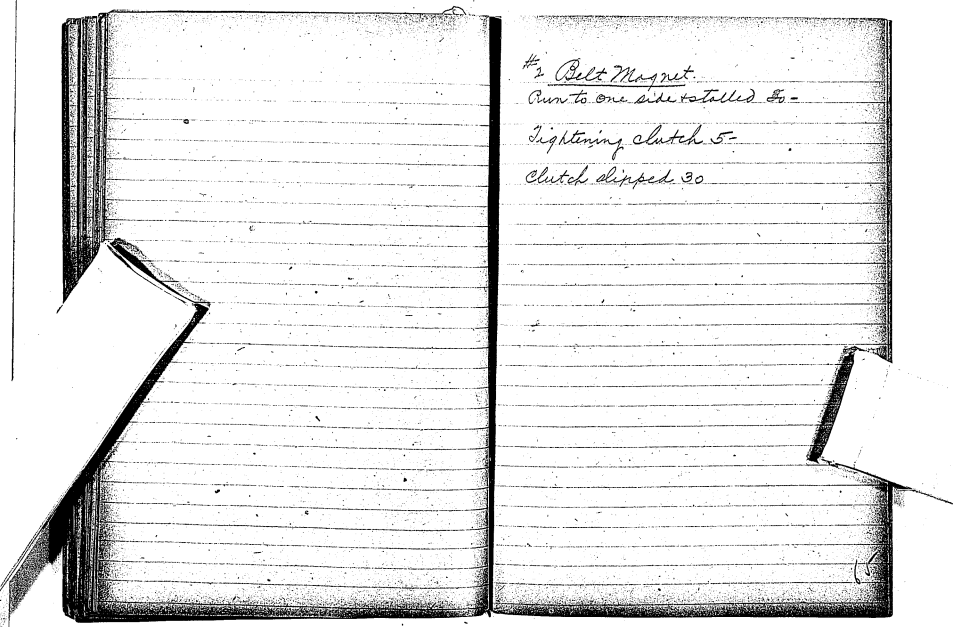

#1 Conveyor
Ripped pursuant to Sec. 15-110

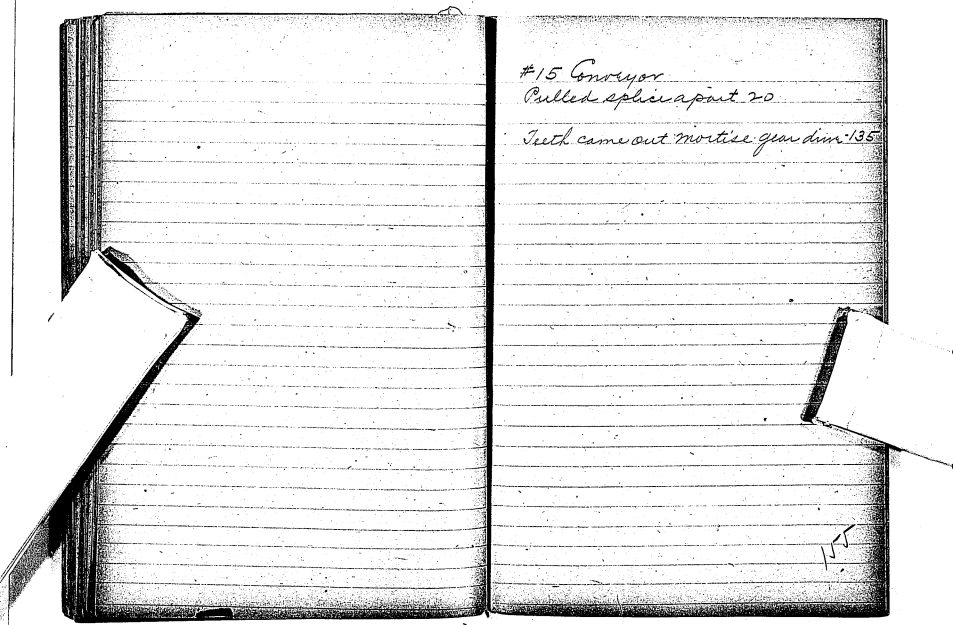

19 1/2 Conveyor
Wheel off taken off by inspector
Forgotten 20
Running on drums 20 1/2 + 19 1/2 Con 18 -
3


90 Conveyor
Motor driving #30 Con stuck 10-

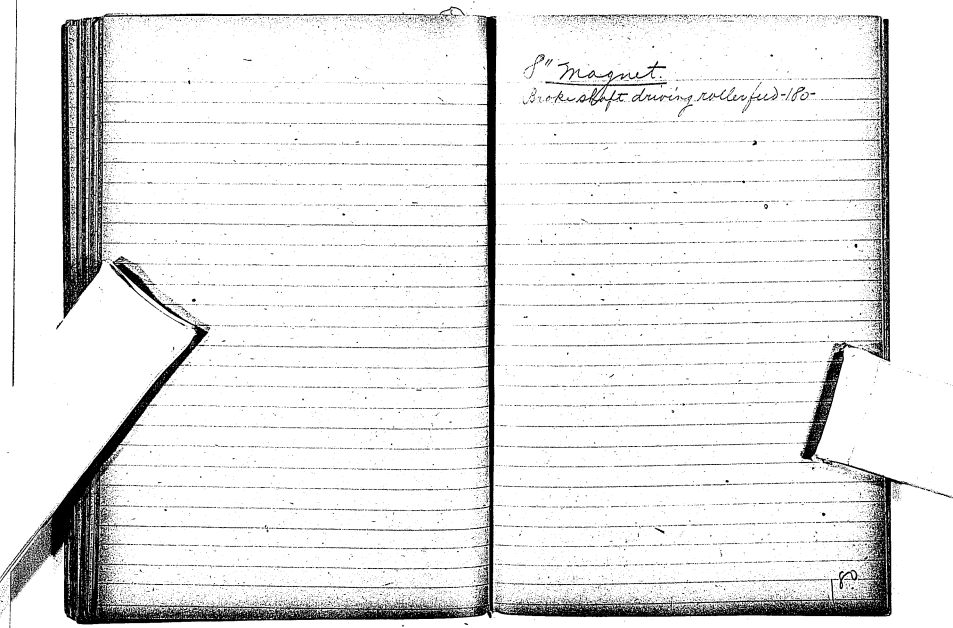
Waiting for oil cup head #30 Con Motor 90

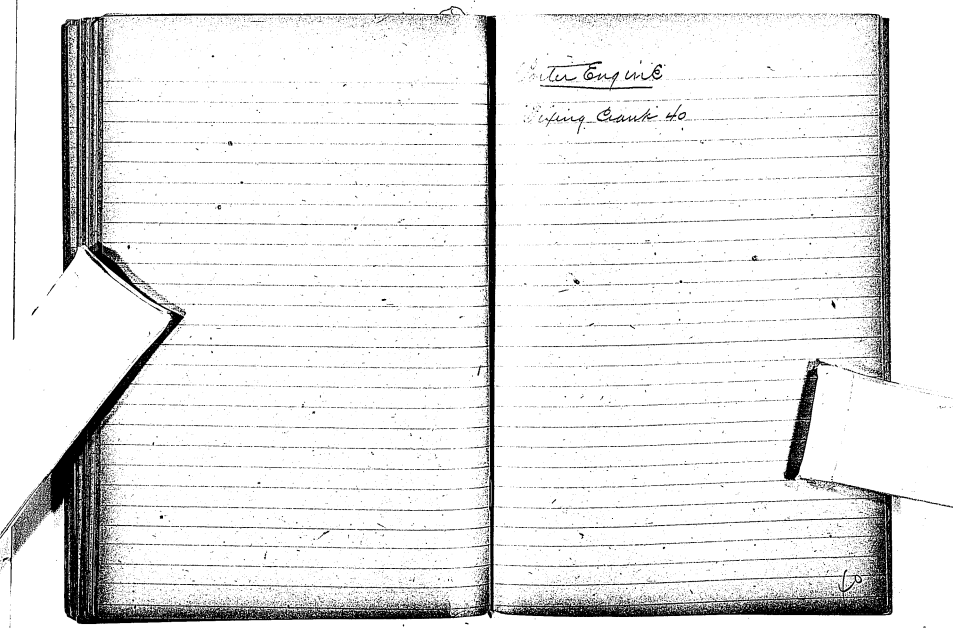
150

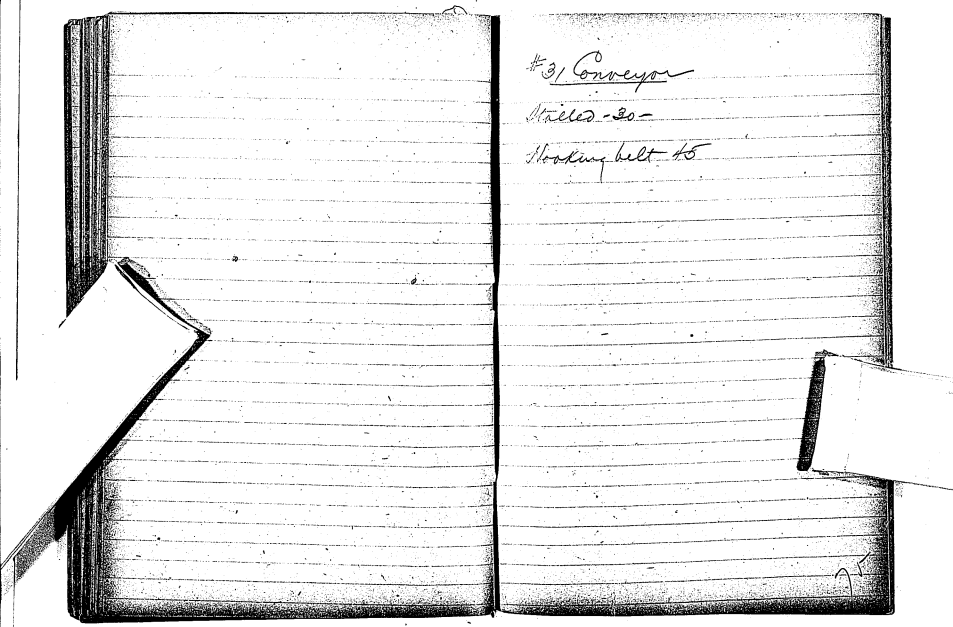

#2 Belt Magnet.
Run to one side stalled 50-
Tightening clutch 5-
Clutch slipped 30


#15 Conveyor
Pulled splice apart 20

Teeth came out mortise gear dim. 135"

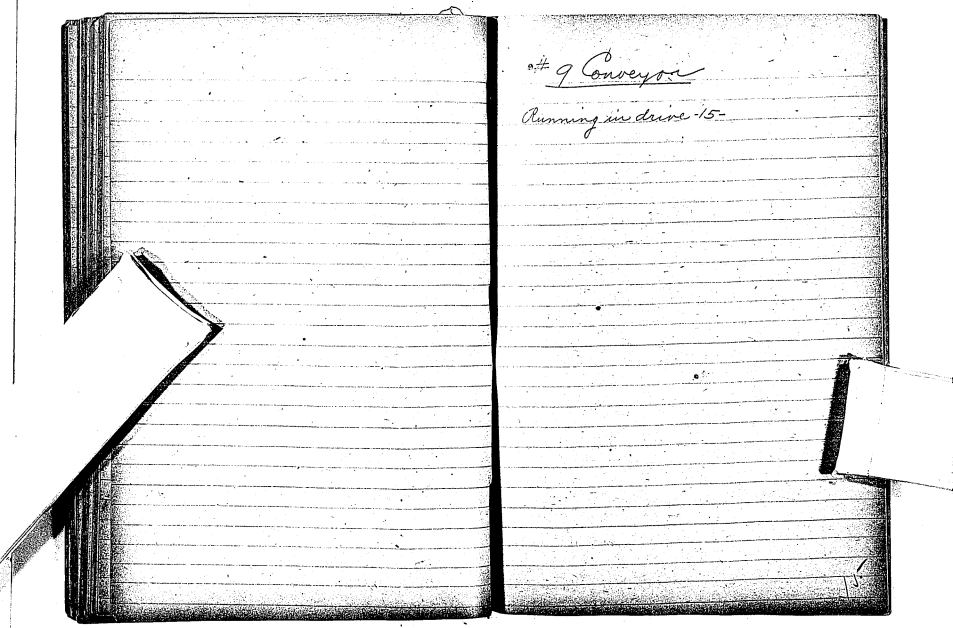

8" Magnet.
Broke shaft driving roller feed-180-

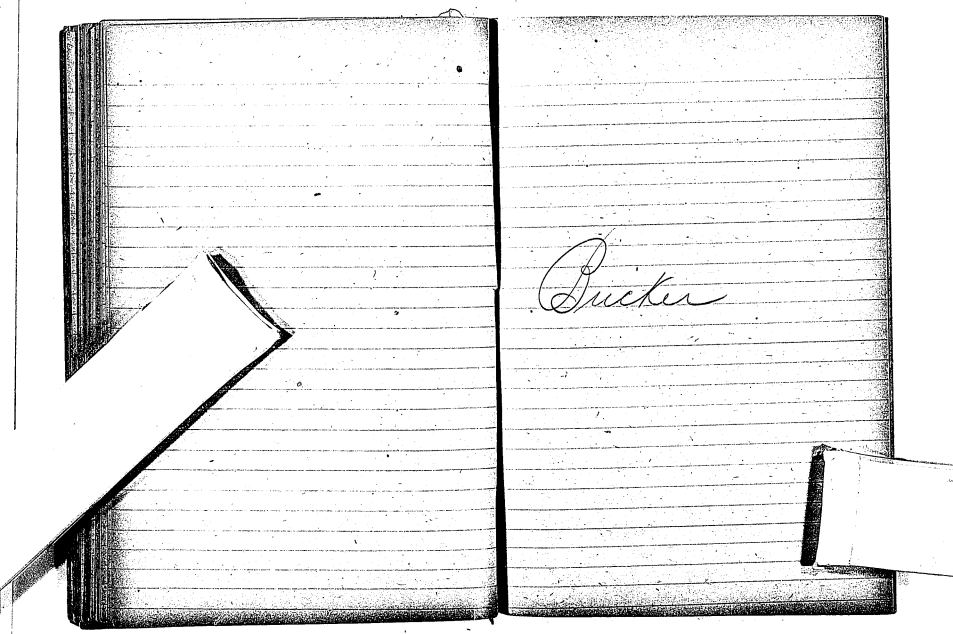

Gas Engine
Piping Crank #0

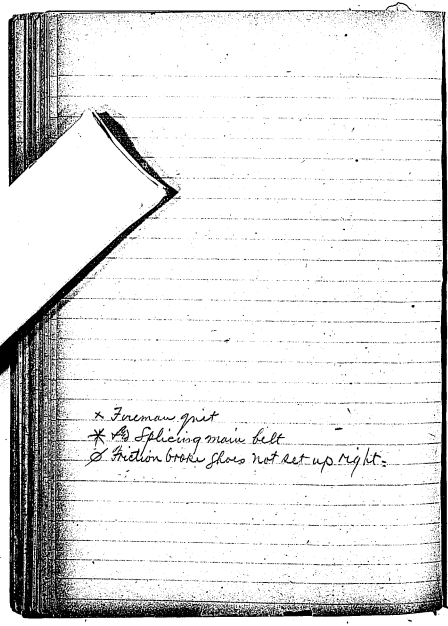

#3 Conveyor

Miles - 20 -

Hooking belt 45


#9 Conveyor
Running in drive -15-


Bucker



Miscellaneous

Waiting for Dairy Patch 428 (420)

Waiting for Speed 5-5-30-8-4-5-5-5-5-10-5
10-5-5-10-6-10-15-30-15 (198)
Getting heat in ovens 20-20-15-30-20-30-15-30
110-30-40-44 (404)
Steam down 10-15-10-8-10-15-10-15-40-15-5
5-5-10-12-5-10-10-8-10-5-8-5-5-15-30-10-20-40
5-20-10-15-140-5-5-5-10-20-40-40-15-5-5-3-3-5-
3-2-5-35-3-5-5-5-3-3-4-3-3-5-4 * (809)
Cleaning out mixers 15-10-15-20-100-17-20
22-26-15-20-20-30-20-20-20-20-20-16-18
20-15-17-20-20-15 (658)

Gasket blew out of main steam line-75-15
5-140-40 (558)
Waiting for water 140-15 (155)

Tightening friction Mixer Drive-10-20-16-12
-15 (527)
No Oil-10 (70)

Clutch out Mixers 10
Running main belt-10

* Foreman quit
✱ ✱ Splicing main belt
Ø Friction brake shoes not set up right.

Miscellaneous

× Steam shut off during the night.
* Foreman let steam down / pipes got cold.

Waiting for Muck - 12-5-90 (7.5)

Tightning Keys on Mortise gears driving Mixers 2 Keys got loose 1.0

Machinist working on #11 Bucket Elevator-belt + shaft got in 4 7 Qrs threw it off track 4.5

Getting men to put on oil cups 1.0

Running mixers without feed .5

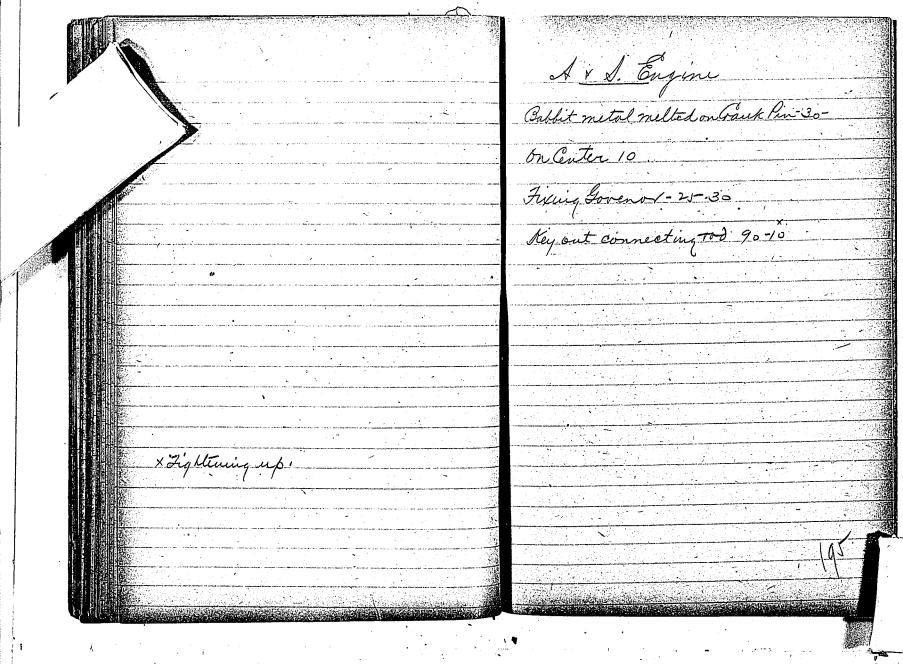
No room for Cars on R.R. track 3.6.0

Tooth broken in Mortise gear driving Mixers .5

Some one tampering with signal Button .3

Canvas splice pulled apart in force blower 1.0-9 (1.9)

(14.70)



A & S. Engine

Babbit metal melted on Crank Pin 30

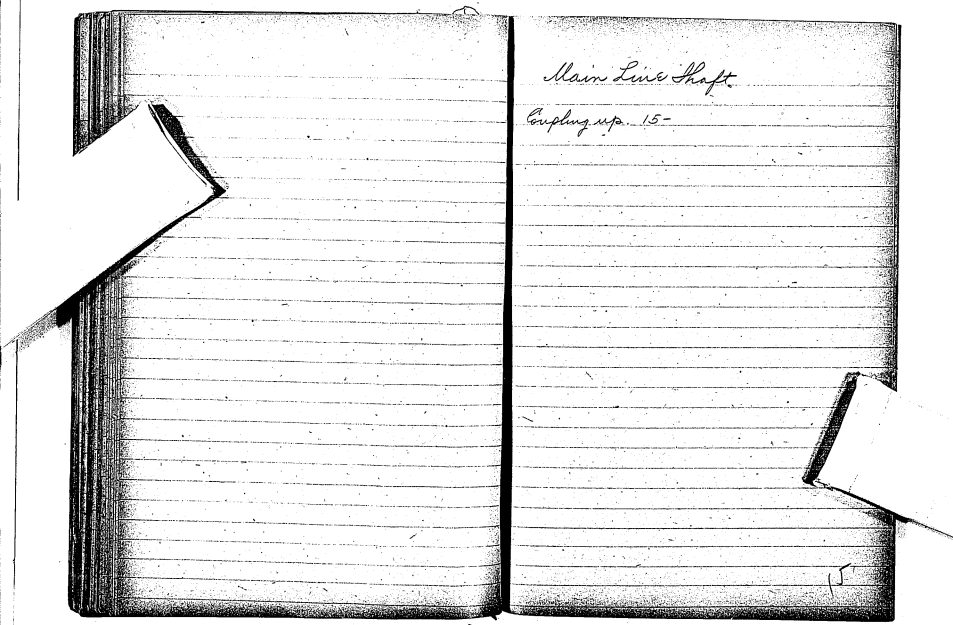
On Center 10

Fixing Governor 2-30

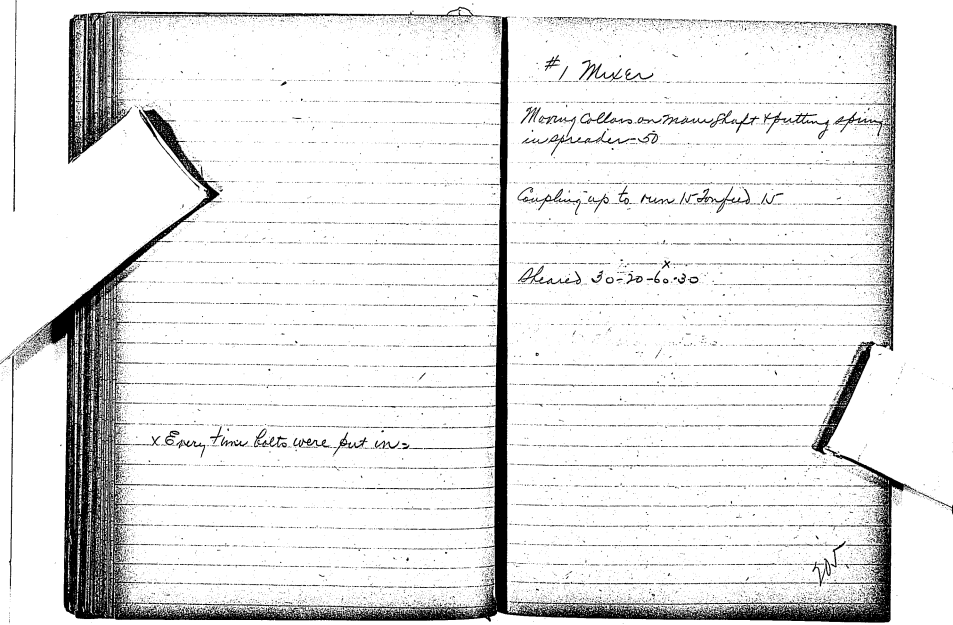
Key out connecting rod 90-10

x Tightening up.

195


Main Line Shaft.

Coupling up. 15-



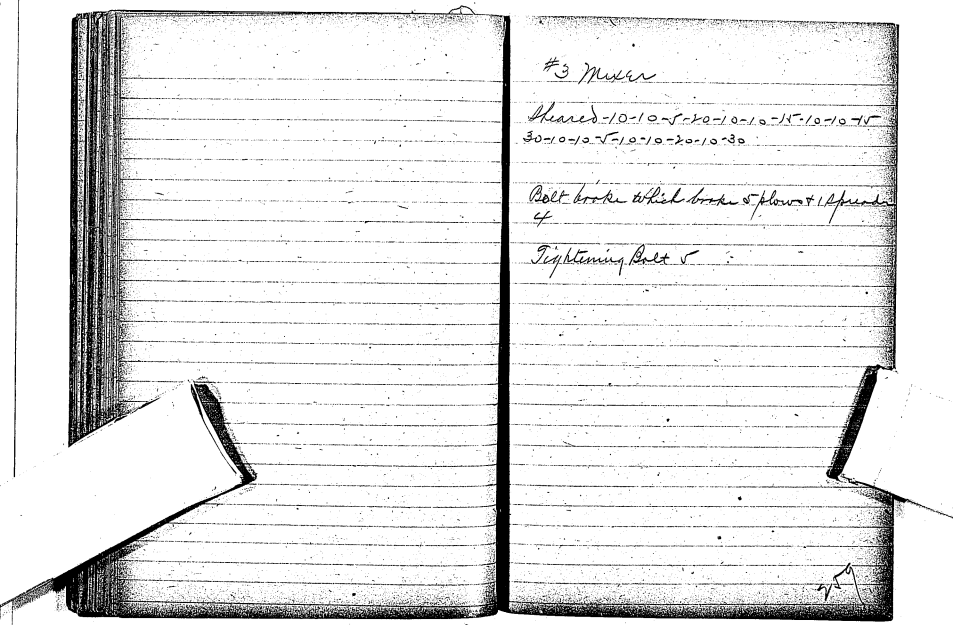
#1 Mixer

Moving collars on main shaft + putting spring in spreader-50

Coupling up to run N Jonfied N

Cleaned 30-30-60-30

x Every time belts were put in.

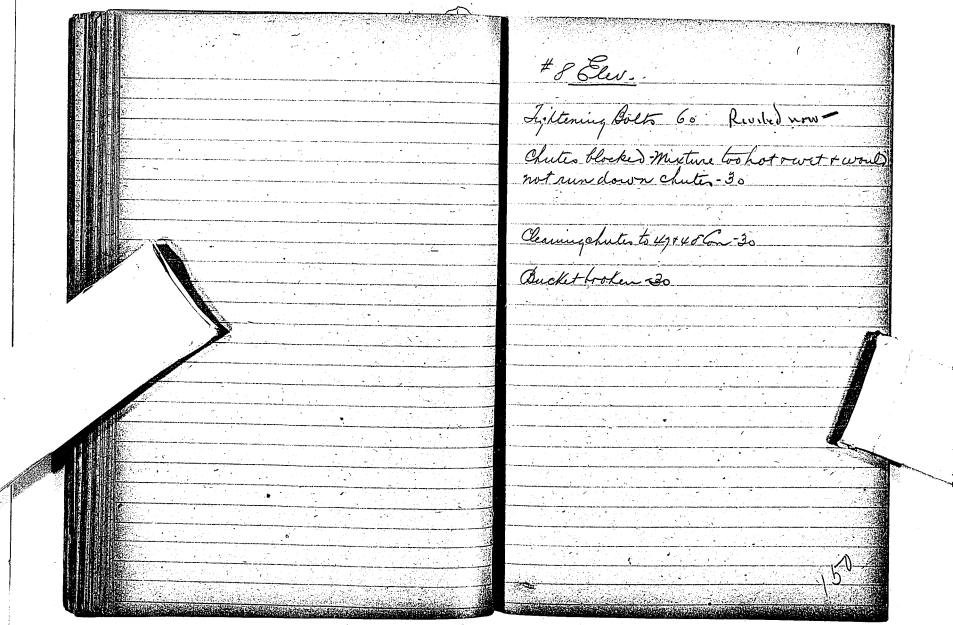


#3 Mixer

Sheared -10-10-✓-20-10-10-15-10-10-15
30-10-10-✓-10-10-20-10-30

Bolt broke which broke ✓ plow + 1 spreader
4

Tightening Bolt ✓



#8 Elev.

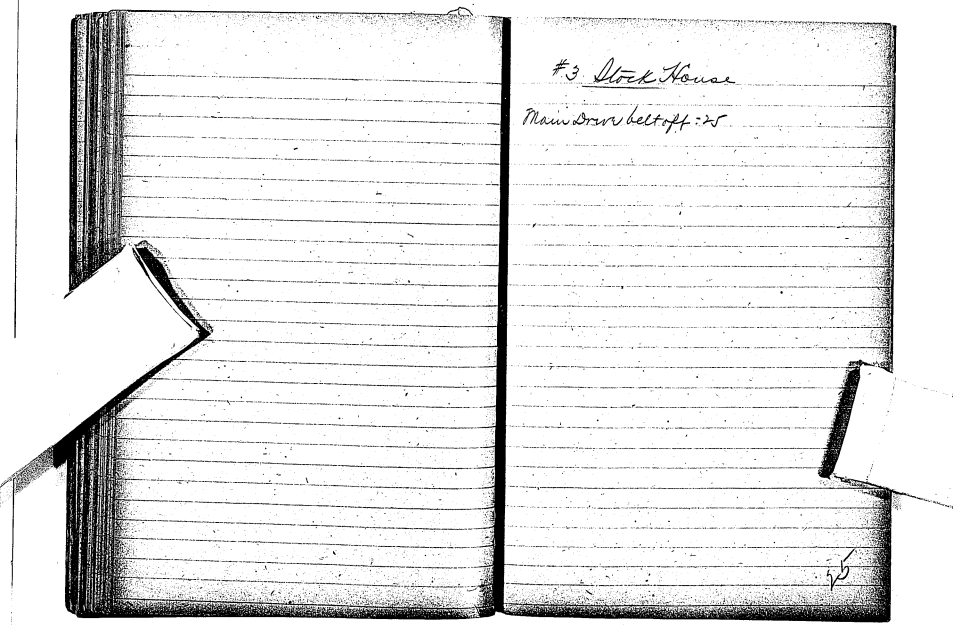
Lightening Bolts 6.0 Rivited now

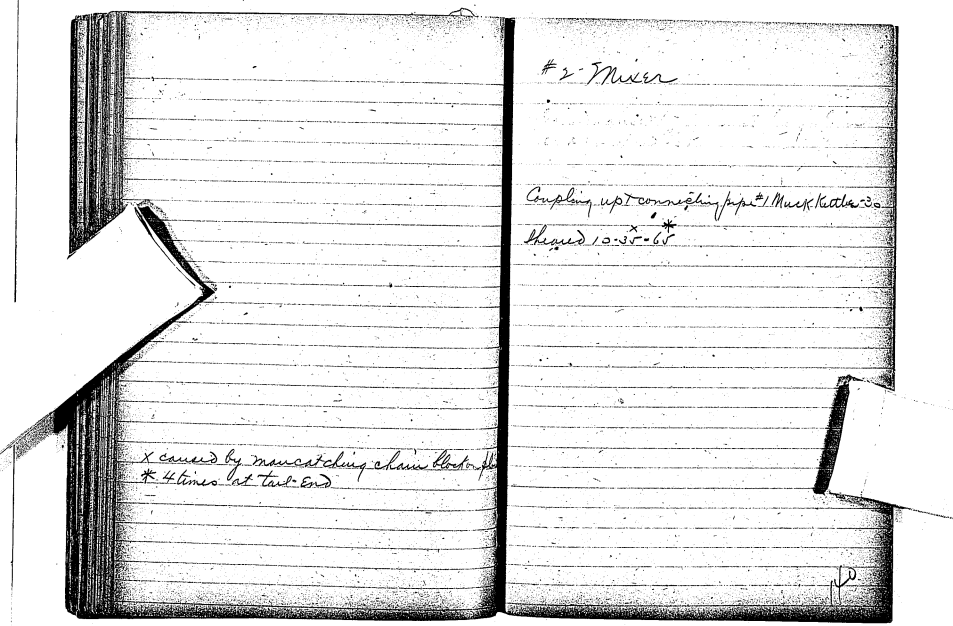
Chutes blocked Mixture too hot + wet + would not run down chutes - 3.0

Cleaning chutes to 4th + 6th Floor - 3.0

Bucket Broken - 3.0

15


#3 Stock House
Main Drive belt off: 25

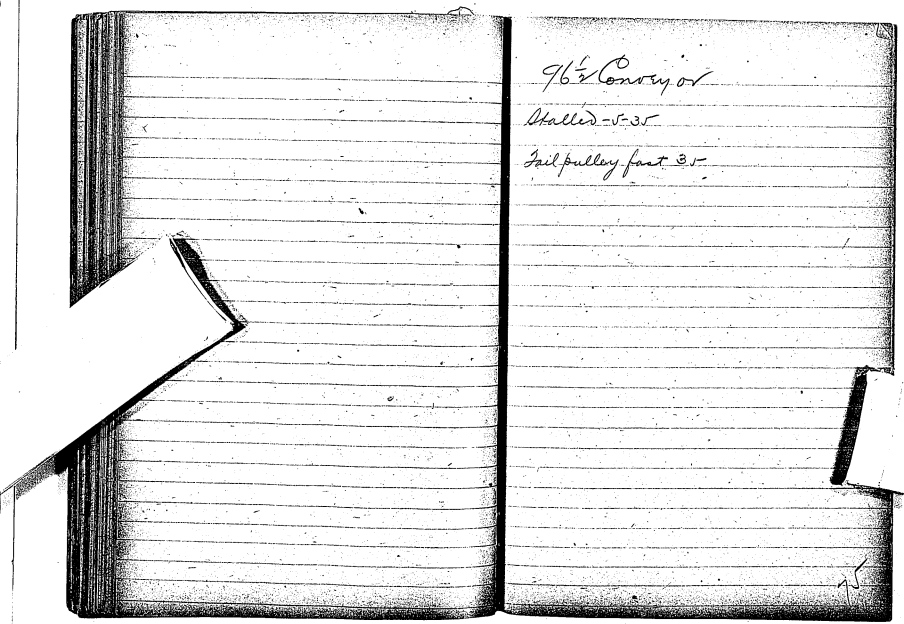

#2 Mixer

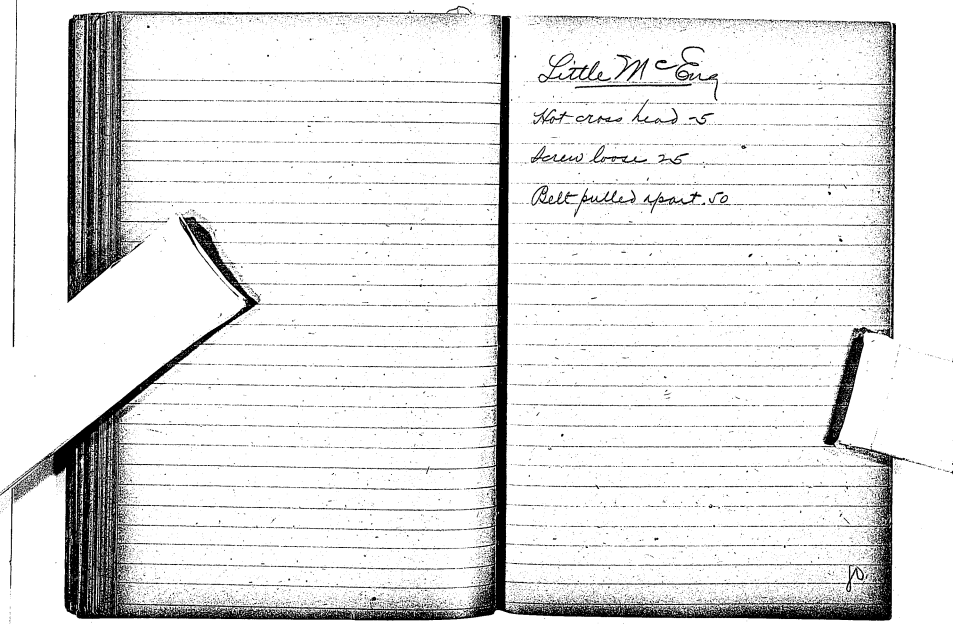
Coupling up connecting pipe #1 Mud Kettle - 3

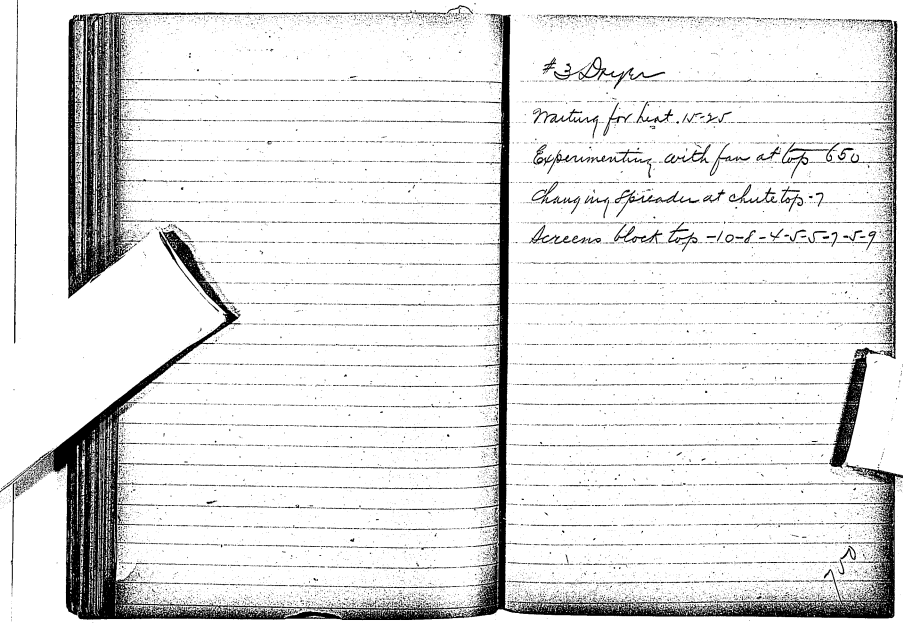
Shaved 10-35-65

x caused by mud catching chain block

* 4 times at end


96½ Conveyor
Hauled - V-35
Tail pulley fast 35


Little McEng
Hot cross head .75
Screw loose .75
Belt pulled apart .50



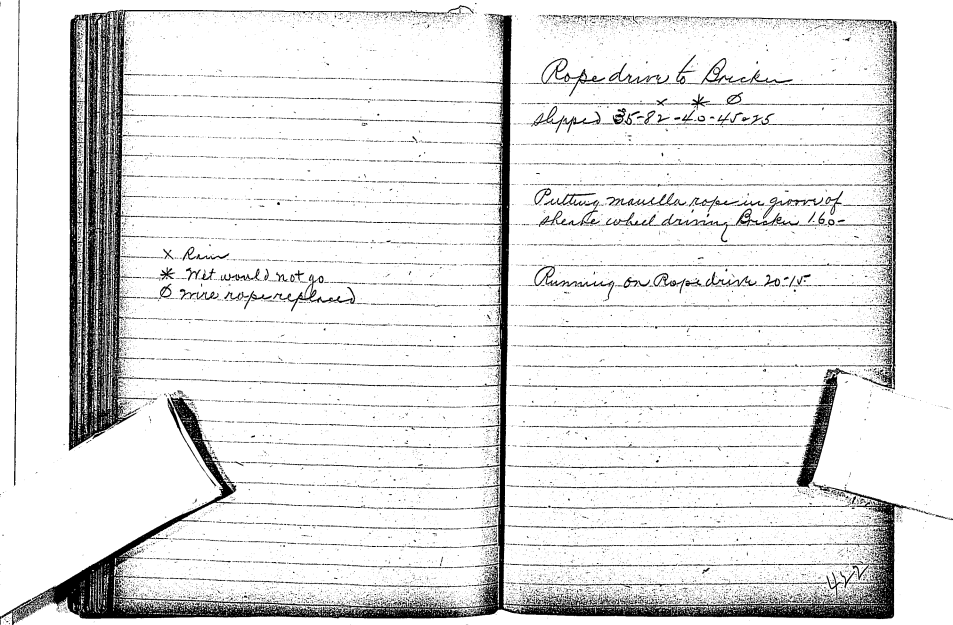
#3 Dryer

Waiting for heat. 11-25

Experimenting with fan at top 650

Changing Spreader at chute top -7

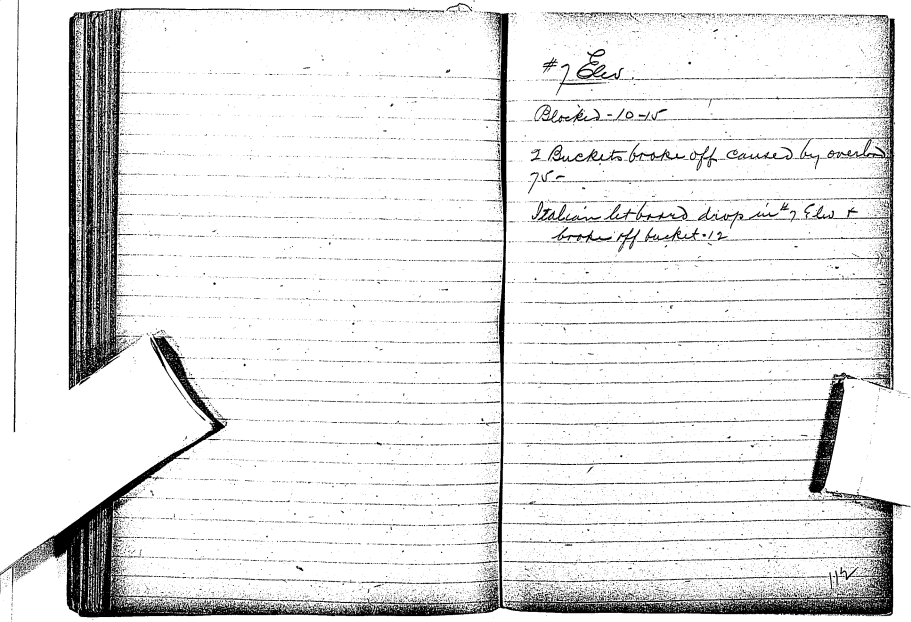
Screens block top -10-8-4-5-5-7-5-9


Rope drive to Bricks
slipped 35-82-40-45-25
× *

Putting manilla rope in grooves of sheave wheel driving Bricks 1.60-

Running on Rope drive 20.15

× Rim
* Nut would not go
Ø Wire rope replaced

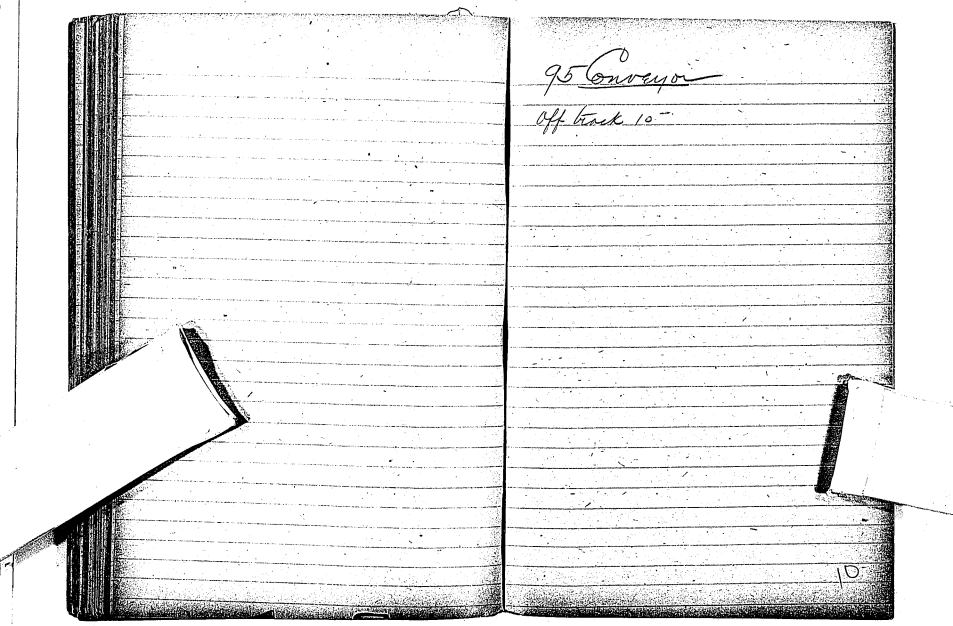


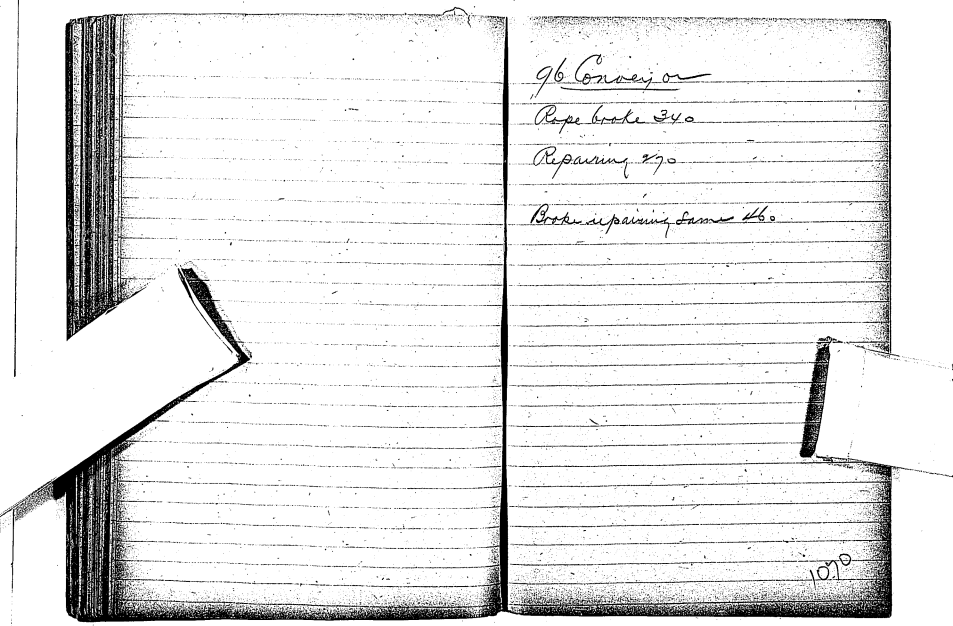
#7 Elev.

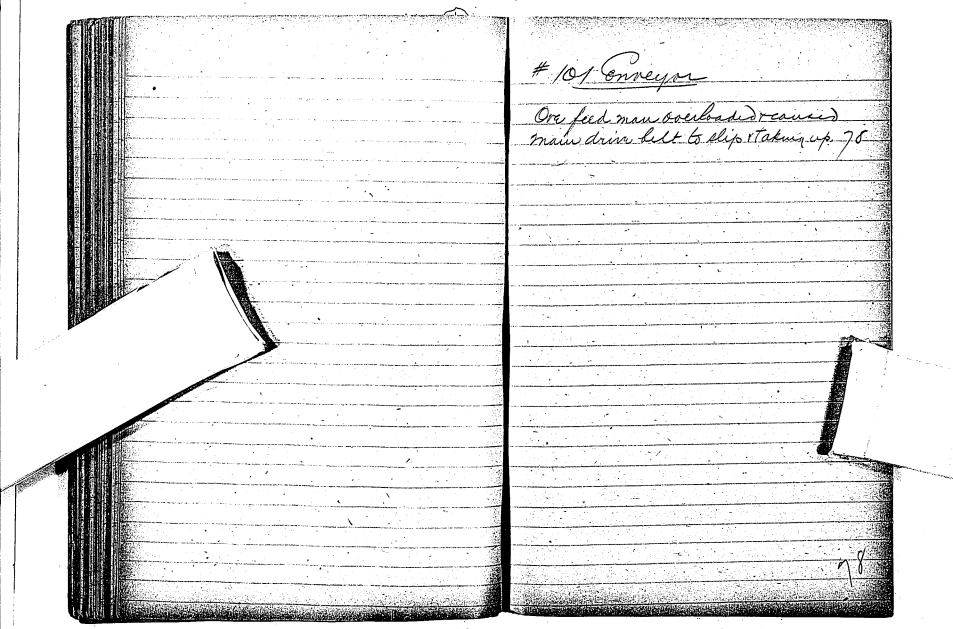
Blocked - 10-15

2 Buckets broke off caused by overload 7/5 -

Italian bricklayers drop in #7 Elev & broke off bucket. 12

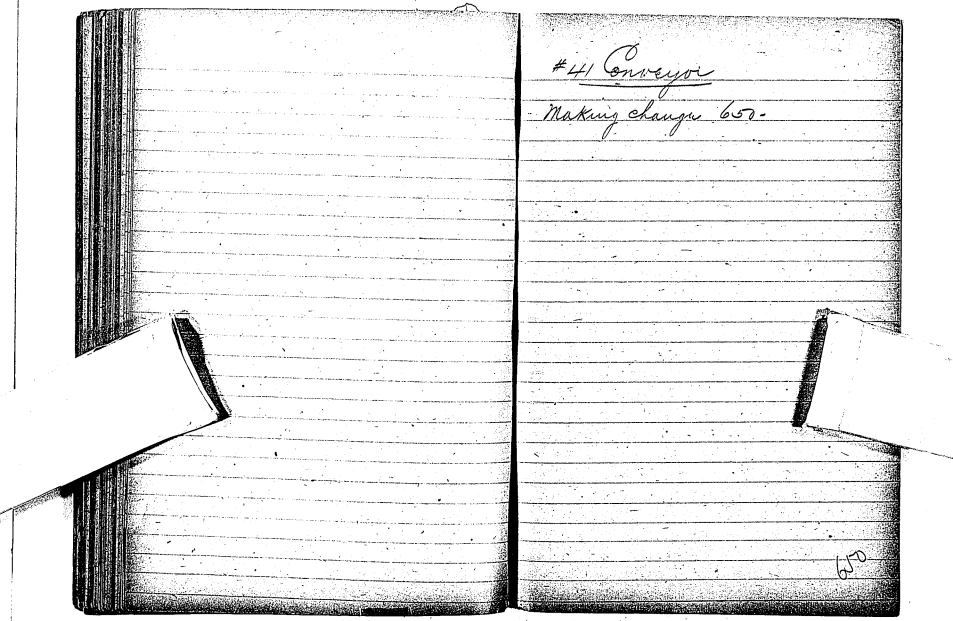

95 Conveyor
Off track 10"
10


96 Conveyor
Rope broke 3.40
Repairing 2.70
Broke repairing same 4.6.
10.10


#101 Conveyor

One feed man overloaded & caused main drive belt to slip & taking up. 78

78


#41 Conveyor
Making change 650-